1869 CITY OF NEW YORK 1923

THE AMERICAN MUSEUM *and* THE WORLD

FIFTY-FIFTH ANNUAL REPORT FOR THE YEAR 1923 :: THE AMERICAN MUSEUM OF NATURAL HISTORY

NEW YORK, JULY 15, 1924

Publications

ANNUAL REPORT of The American Museum of Natural History: first report, January, 1870, by Joseph H. Choate, was a pamphlet of 30 pages. Beginning in 1921 with the Fifty-third Annual Report, these reports have become contributions to the theory and practice of museum development and administration, as indicated by the successive titles: *The American Museum Ideal,* report of the year 1921, issued in 1922; *The American Museum and Citizenship,* report of 1922, issued in 1923; *The American Museum and the World,* report of 1923, issued in 1924. Standard bound copies of these reports are distributed to the 400 libraries and scientific institutions receiving the American Museum publications.

THE AMERICAN MUSEUM OF NATURAL HISTORY: Its Origin, Its History, Growth of Its Departments. Trustees' edition, 50 copies, published February 14, 1910; Curators' edition, 600 copies, published July 1, 1911.

NATURAL HISTORY, Journal of The American Museum of. Natural History: Volumes I-XXIII, 1900-1923. An illustrated magazine devoted to the advancement of natural history; a record of scientific research, exploration and discovery, of the development of museum exhibitions and of museum influence on education. Contributors are workers eminent in these fields, including the scientific staff, explorers and Members of the American Museum. Issued free to all classes of membership and on subscription.

BULLETIN OF THE AMERICAN MUSEUM OF NATURAL HISTORY: Volumes I-XLVIII, 1881-1923. Scientific records of explorations and collections of the Museum in geology, palæontology, mineralogy, zoology and, originally, anthropology. Issued in exchange to 400 libraries and institutions of science and learning throughout the world.

PUBLICATIONS—*Continued*

American Museum Novitiates: Nos. 1-103, 1921-1923. Devoted to publication of preliminary announcements and descriptions of new forms in the fields of zoology, palæontology, geology and mineralogy.

Anthropological Papers: Volumes I-XXVII, 1906-1923. Discoveries, explorations and researches in archæology, anthropology and ethnology among the extinct and living races of man. Issued to 400 institutions of learning throughout the world.

Memoirs of The American Museum of Natural History: Volumes I and IX, 1893-1909; contributions by Whitfield, Osborn, Beutenmuller, Matthew, Brown, McGregor, Dean. Volumes II-VIII and X-XIV constitute the Jesup North Pacific Series. New Series, Volumes I-III, 1912-1921, devoted to zoology and palæontology.

Ethnographical Album of the North Pacific Coasts of America and Asia, 1900. Part I. A catalogue of ethnographical types.

The Ancient Quipu or Peruvian Knot Record. By L. L. Locke, 1923, clearly demonstrates that the quipu was used for numerical records and points out the impossibility of recording history and folklore by this means, as early historians believed. Mr. Locke has succeeded in locating forty-nine quipus, of which forty-two are in the collections of the American Museum.

Essentials of Anthropometry. By Louis R. Sullivan, 1923. Pocket size, prepared for the assistance of field workers in physical anthropology.

A Review of the Primates. A monographic treatise in three quarto volumes by Daniel Giraud Elliot.

Bibliography of Fishes. By Bashford Dean, 1916-1923, covering the entire literature of fishes to 1914 and embracing 45,000 titles arranged alphabetically by authors.

PUBLICATIONS—*Continued*

Autobiographical Notes and a Bibliography of the Scientific Publications of Joel Asaph Allen.

Hitherto Unpublished Plates of Tertiary Mammals and Permian Vertebrates. By Cope and Matthew.

Fossil Vertebrates in the American Museum: Volumes I-VII. Collected reprints from the Department of Vertebrate Palæontology.

HANDBOOK Series. Nos. 1-9, 1912-1923. (Cloth-bound, 8vo.) Dealing with subjects illustrated by the collections, rather than with the objects themselves.

Illustrated GUIDE LEAFLET Series. Nos. 1-58, 1901-1923. Pamphlets describing exhibits, or series of exhibits, of special interest and importance, or dealing with the contents of an entire hall.

Reprints. Pamphlets containing articles which originally appeared in *Natural History* and for which there is a large popular demand.

GENERAL GUIDE TO THE COLLECTIONS. 136 pages and many illustrations.

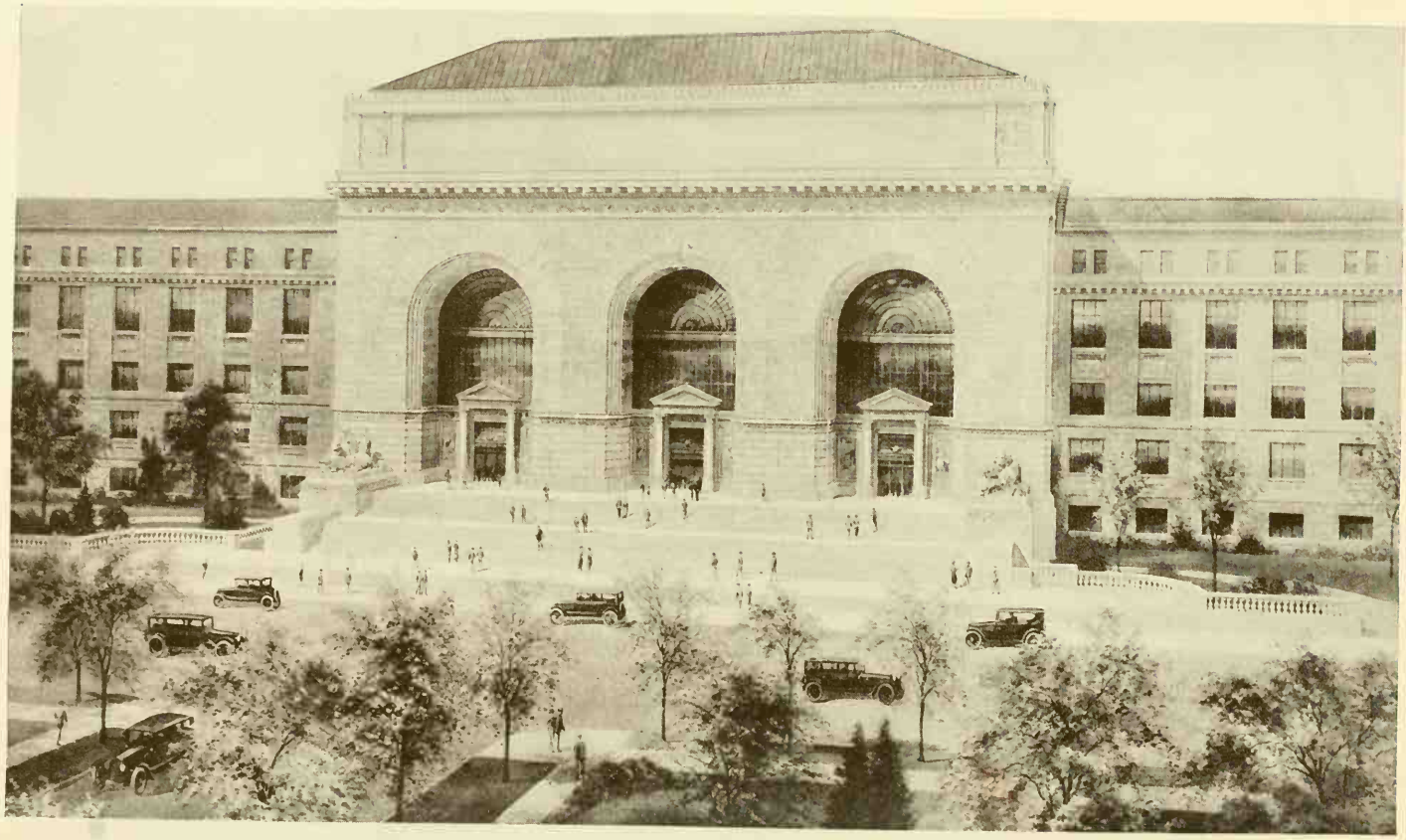
Zoology of the Congo. Collected papers from the *Bulletin* and *Novitates;* to be completed in 12 volumes and conclude with "Natural History of the Congo."

Scientific Contributions of the Third Asiatic Expedition. Collected papers from American Museum *Novitates, Bulletin* and *Memoirs;* to be contained in 12 volumes, "China and Mongolia."

All publications are issued by the Trustees. The cost is defrayed by the Jesup Endowment Fund. These publications are issued in exchange for scientific publications from all parts of the world and are also on sale.

Applications should be made to

THE LIBRARIAN,
American Museum of Natural History,
77th Street and Central Park West, New York City.



DESIGN SUBMITTED FOR THE PROPOSED STATE ROOSEVELT MEMORIAL

New Entrance Hall, Central Park West and 79th Street, to be erected by the State of New York in connection with The American Museum of Natural History as the New York State Memorial to the late Theodore Roosevelt

Science
A

FIFTY-FIFTH ANNUAL REPORT

OF THE

TRUSTEES

OF

THE AMERICAN MUSEUM OF NATURAL HISTORY

FOR THE YEAR 1923

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FOR THE FREE EDUCATION
OF THE PEOPLE
FOR EXPLORATION, RESEARCH, EXHIBITION
AND PUBLICATION

THE CITY OF NEW YORK

ISSUED JULY 15, 1924

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THE AMERICAN MUSEUM OF NATURAL HISTORY

INCORPORATED BY THE LEGISLATURE OF THE STATE OF NEW YORK IN 1869

"For the purpose of establishing and maintaining in said city a Museum and Library of Natural History; of encouraging and developing the study of Natural Science; of advancing the general knowledge of kindred subjects, and to that end of furnishing popular instruction."

HISTORY

PRESIDENCY OF JOHN DAVID WOLFE, 1869-1872.

1869 (April 6) Museum incorporated.

1869 (May 4) Constitution adopted as originally drafted by Joseph H. Choate.

1870 First home secured, the Arsenal, Central Park.

PRESIDENCY OF ROBERT L. STUART, 1872-1881.

1874 (June 2) Cornerstone of present building laid by President Ulysses S. Grant.

1878 (January 30) Contract between Trustees and Department of Parks, as drawn up by Messrs. Andrew H. Green and Joseph H. Choate, adopted by the Park Commissioners.

1880 Educational work with the schools inaugurated by Professor Albert S. Bickmore.

PRESIDENCY OF MORRIS K. JESUP, 1881-1908.

1893 Museum opened to the public on Sundays.

1907 Museum opened free to the public every day in the year.

PRESIDENCY OF HENRY FAIRFIELD OSBORN, 1908-

1908 Constitution amended making
The Mayor of the City of New York,
The Comptroller of the City of New York,
The President of the Department of Public Parks, *ex-officio* members of the Board of Trustees.

1921 Greater New York Charter amended, placing the Museum on the same basis as schools with respect to Corporate Stock Appropriations, by Chapter 618 of the Laws of 1921.

Full information regarding the Charter under the State of New York and the Contract with the City of New York is included on pages 230 to 238 of this report.

The Corporation consists of a self-perpetuating Board of twenty-five Trustees, elected for terms of five years. Also, *ex-officio,* The Mayor of the City of New York, The Comptroller of the City of New York, and the President of the Department of Parks.

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Dr. Bashford Dean
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Rear-Admiral Robert E. Peary, U.S.N.*
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Prof. William M. Wheeler

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Through election in recognition of distinguished scientific service to the Museum

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Norman Grant
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Nicoli Sokolnikoff
Mrs. Mary White Tsipouras
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Gen. S. Herbert Wolfe
Major John G. Worth

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Douglas, South Africa
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Medical Missionary, Presbyterian Board of Foreign Missions, Petchaburi, Siam
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National Museum of Victoria, Melbourne, Australia
Dr. Shigeho Tanaka,
Professor of Zoology, Imperial University of Tokio, Japan
Dr. Friedrich von Huene,
Professor of Geology, University of Tübingen, Germany
Dr. Karl Weingand,
Bad Mergentheim, Württemberg, Germany

*Elected February 5, 1923.

PRIVILEGES OF MEMBERS

An Annual Pass admitting to the Members' Room.

Complimentary tickets admitting to the Members' Room for distribution to friends.

Services of an Instructor for guidance through the Museum, by application in the Members' Room.

Two course tickets to Spring Lectures and to Autumn Lectures.

Current numbers of all *Guide Leaflets* on request.

Current copies of *Natural History,* the bimonthly magazine of exploration, adventure and scientific progress.

MEMBERSHIP FEES

Associate Members (non-resident)* (annually)	$3	Fellows	$500
Annual Members "	10	Patrons	1,000
Sustaining Members "	25	Associate Benefactors	10,000
Life Members	100	Associate Founders	25,000
		Benefactors	50,000

*Residing fifty miles or more from New York City.

GIFTS AND BEQUESTS EXEMPT FROM TAXATION

Gifts, to the extent of fifteen per cent. of net income, and Bequests of any extent to The American Museum of Natural History are exempt from federal taxation, under the Federal Revenue Act of 1918.

FORM OF GIFT OR BEQUEST

I do hereby give and bequeath to "The American Museum of Natural History" *of the City of New York*.....

.....

.....

TRUSTEES' ENDOWMENT FUND

The Endowment Fund was established in 1884. It now amounts to $11,591,617.22. The Trustees especially desire to insure the permanent growth and welfare of the Museum through an increase of the General Endowment Fund. The additional sum of $3,000,000 is needed at present.

FOR FURTHER INFORMATION APPLY TO

Henry Fairfield Osborn, President,

to

Percy R. Pyne, Secretary,

or to

George F. Baker, Jr., Treasurer.

CITY OF NEW YORK

MUNICIPAL INSTITUTIONS WITH WHICH THE MUSEUM IS COOPERATING

The American Museum of Natural History was founded in 1869, to promote the theory and practice of free public education.

	FOUNDED
Department of Education of the City of New York	1842
High Schools and Public Schools	
New York Training School for Teachers	1904
Maxwell Training School for Teachers	1885
Hunter College	1870
College of the City of New York	1847
Brooklyn Institute of Arts and Sciences	1823
Central Museum	1854
Children's Museum	1899
Brooklyn Botanic Garden	1910
New York Public Library	1854
Branch Libraries: Fort Washington Harlem Highbridge Jackson Square Kingsbridge Melrose Morrisania Sherman Avenue Tompkins Square Washington Heights Yorkville 67th Street 115th Street	
Metropolitan Museum of Art	1870
Staten Island Institute of Arts and Sciences	1881
New York Botanical Garden, The Bronx	1891
New York Zoological Society	1895
New York Zoological Park, The Bronx	1895
New York Aquarium, Battery Park	1896

ENDOWED INSTITUTIONS WITH WHICH THE MUSEUM IS COOPERATING

Columbia University	1754
New York Historical Society	1804
New York Academy of Sciences	1817
New York University	1831
American Ethnological Society	1842
American Geographical Society	1852
Cooper Union for the Advancement of Science and Art	1857
Torrey Botanical Club	1867
New York Microscopical Society	1877
Linnaean Society of New York	1878
New York Mineralogical Club	1886
New York Entomological Society	1892
Aquarium Society	1893
American Scenic and Historic Preservation Society	1895
Public Education Association of the City of New York	1895
City History Club of New York	1896
Woodcraft League of America	1902
Hispanic Society of America (Art and Archaeological Collections)	1904
School Garden Association of New York	1908
Boy Scouts of America	1910
Girl Scouts	1912
Camp Fire Girls	1912
The New York Bird and Tree Club	1913
School Nature League	1917
Museum of the American Indian	1920

MUSEUMS WITH WHICH THE AMERICAN MUSEUM IS COOPERATING

Academy of Natural Sciences of Philadelphia, Philadelphia, Pa.
American Association of Museums
Australian Museum, Sydney, Australia
Bernice P. Bishop Museum, Honolulu, Hawaii
Boy Scout Museum, Palisades Interstate Park
British Museum (Natural History), London, England
Buffalo Society of Natural Sciences, Buffalo, New York
California Academy of Sciences, San Francisco, California
Canterbury Museum, Christchurch, New Zealand
Carnegie Museum, Pittsburgh, Pennsylvania
Charleston Museum, Charleston, South Carolina
Cleveland Museum of Natural History, Cleveland, Ohio
Colorado Museum of Natural History, Denver, Colorado
Davenport Academy of Sciences, Davenport, Iowa
Durban Museum, Natal, South Africa
Field Museum of Natural History, Chicago, Illinois
Florida State Museum, Gainesville, Florida
Geological Museum, University of Nebraska, Lincoln, Nebraska
Geological Museum, University of Toronto, Ontario, Canada
Geological Palaeontological Institute, University of Tübingen
Geological Society of China, Peking, China
Geological Survey of China, Peking, China
Imperial University of Tokyo, Tokyo, Japan
Institut de Paléontologie Humaine, Paris, France
Instituto Oswaldo Cruz, Bello Horizonte, Minas Geraes, Brazil
K. K. Naturhistorisches Hofmuseum, Vienna, Austria
J. Miln Museum, Carnac, France
Mining and Geological Museum, Sydney, Australia
Musée du Congo Belge, Tervueren, Belgium
Musée royal d'Histoire Naturelle de Belgique, Brussels, Belgium
Museo de La Plata, La Plata, Argentina
Museo Nacional de Historia Natural, Buenos Aires, Argentina
Museu Nacional, Rio de Janeiro, Brazil
Museum de Paléontologie, Paris, France

Museum of Comparative Zoology, Cambridge, Massachusetts
Museum of Natural History, Berlin, Germany
Museum of Natural History and Ethnology, Dresden, Germany
Museum of Zoology, Ann Arbor, Michigan
National Museum, Copenhagen, Denmark
National Museum of Natural History, Mexico City, Mexico
National Research Council
National University, Peking, China
Newark Museum Association, Newark, New Jersey
Peabody Museum of Natural History, Yale University
Port Elizabeth Museum, Cape Colony, South Africa
Princeton University Museum, Princeton, New Jersey
Public Museum of the City of Milwaukee, Milwaukee, Wisconsin
Queensland Museum, Brisbane, Australia
Saint Paul Institute, Saint Paul, Minnesota
San Diego Society of Natural History, San Diego, California
Senckenberg Museum, Frankfurt, Germany
South Australian Museum, Adelaide, Australia
State Natural History Collections, Stuttgart, Germany
State Natural History Museum, Vienna, Austria
State Historical and Natural History Society of Colorado, Denver
State Museum, Albany, New York
Toledo Museum of Art, Toledo, Ohio
United States National Museum, Washington, D. C.
University Geological Museum, Padua, Italy
University Museum, Cambridge, England
University Museum, Oxford, England
University Museum of Palaeo-Biology, Vienna, Austria
University of California, Berkeley, California
University of Colorado, Boulder, Colorado
University of Mexico, Mexico City, Mexico
University of Munich, Munich, Germany
Victoria Memorial Museum, Ottawa, Canada
Victoria Museum, Launceston, Tasmania
Washington State Historical Society, Tacoma, Washington
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To the Members of The American Museum of Natural History:

The President has the honor to submit herewith the Fifty-fifth Annual Report of the Trustees of The American Museum of Natural History and to briefly call attention to the salient features of the work of the year 1923. The report of the Secretary, the report of the Treasurer, and the reports by the Director and the Curators in charge of the scientific departments of the Museum recount in detail the various activities and the growth of the several departments and indicate that the year 1923 is a memorable one in the development of the institution.

The progress of the Museum is in large measure due to the liberal support from the City for maintenance and for construction; to the continued generous contributions from the Trustees and other Members; to the spirit of devotion which animates all the members of our scientific and administrative staffs; to the hearty support of the Museum's work by the public press, and to the genuine interest of the ever-widening circle of friends in all parts of the world, who believe that the institution is making a real contribution to the cause of popular education and learning.

THE AMERICAN MUSEUM AND THE WORLD

By President Henry Fairfield Osborn

KING HENRY. O heaven! that one might read the book of fate;
And see the revolution of the times
Make mountains level, and the continent
Weary of solid firmness, melt itself
Into the sea! and, other times, to see
The beachy girdle of the ocean
Too wide for Neptune's hips; how chances mock,
And changes fill the cup of alteration
With divers liquors!

—*Shakespeare, Henry IV.*

TO bring the world of nature within the walls of a great city to those who cannot otherwise see the world, who cannot explore or travel, who cannot go very far beyond their immediate environment—this seems to be the primary object of a great municipal museum. We cannot be local. We cannot be provincial. We cannot confine ourselves to the boundaries even of a great country like our own. We must extend to other lands and seas and to all parts of the globe. We must give a vision, not only of the earth but of the depths of the seas below and of the firmament above. In a city like New York, with people from all parts of the globe, we must give the people the inspiration, the broad vision, the largeness of mind, and the breadth of sympathy which come to their more fortunate brethren who are able to travel and explore. By our methods we show not only the animals and plants, but where and how they live.

This compass of the world of nature is not a matter of recent decision, but extends back to the very foundation period of the Museum and to the original plan of the building. In fact, the American Museum began in 1869, in Albert S. Bickmore's time, with collections from the Old World—from the East Indies, from southern Asia, from Africa—because in the period of our foundation the whole science of natural history had been built up by the great French and British savants on collections from the Eastern Hemisphere. It was only through the labors of great American naturalists and explorers like John J. Audubon, Spencer F. Baird and F. V. Hayden that the riches of North America began to be fully appreciated and the American Museum waked up to the fact that it must thoroughly explore North America itself, in co-opera-

tion with the United States National Museum and other great museums of this country.

Then it was realized that South America had been sadly neglected and overlooked, and our late Curator Allen repeatedly urged the exploring of this continent, which finally resulted in a series of highly successful expeditions, which are still going on. Then in the beginning of the year 1908 a great new movement started for fresh exploration, along entirely new and much more thorough lines, in the Eastern Hemisphere, beginning in Africa and continuing with our present surveys and discoveries in Asia. Nor was Europe forgotten: Italy, Spain, France, Great Britain, Scandinavia and Germany were visited, for both original and exchange material, illustrative especially of its palæontologic history and the pre-history of man. In the meanwhile, expeditions were sent both to the North Polar and to the South Polar regions, and contact was made with great Arctic and Antarctic explorers. Thus, during the past fifty-five years, the American Museum has gradually become a *World Museum* in its collections, and it is expressing this great fact in its building units.

NORTH AMERICA

Among the chief collectors for the Museum in North America are Messrs. Anderson, Andrews, Anthony, Batty, Boas, Brown, Chapman, Comer, Elliot, Farrand, Figgins, Gidley, Goddard, Granger, Gregory, Hovey, Lowie, Lutz, Matthew, Mearns, Morris, Nelson, Noble, Osborn, Peary, Putnam, Richardson, Saville, Smith, Spinden, Stefansson, Stone, Thomson, Townsend, Watson, Wheeler, Whitfield, Wissler, Wortman.

North America is naturally more richly represented in practically all departments than any of the other great divisions of the earth.

Geology and Invertebrate Palæontology is represented by collections numbering almost three-quarters of a million specimens from the world as a whole, including fossils, rocks, meteorites, etc., from practically all of the United States, the central and western British provinces and from Alaska. Within our own territory, New York, Indiana and Oklahoma are most strongly represented, with various other States such as Georgia, California and Minnesota following hard. The Curators have compiled a map in great detail, showing the proportionate distribution of collections in all States and other political units of North America and other continents, from a few of which as many as 400,000 specimens are noted.

Minerals are computed somewhat differently, and the Curator has indicated the percentage of the Museum's total collection made up of specimens from various major divisions of the globe. While this system gives no indication of the completeness of our series with reference to all known forms of minerals, it does indicate clearly the parts of the world adequately represented in the Museum, those (such as Australia, Eastern Asia and South America) which are poorly represented, and still others (such as Africa, Madagascar and Arabia) from which we have practically no material. As regards North America, 36 per cent. of the Museum's mineral collections are from the area of the United States, and 6 per cent. from Canada, Alaska, and the Arctic lands to the northward.

In *Vertebrate Palæontology,* 20,000 fossil mammals and 6,000 fossil reptiles of the collections are North American. Of these by far the greatest portion was secured from the Great Plains and Rocky Mountain regions. Considerable material, especially of the Proboscidea, represents Alaska, Indiana, Texas and New York. California has yielded material from the La Brea tar pits as well as Mesozoic reptiles. Oregon, Arizona, Arkansas, Florida, South Carolina, New Jersey and other states have contributed smaller amounts.

The *Marine Life* and *Invertebrates of the World,* other than Insects, are richly represented by specimens from North and Central America and the West Indies, except throughout a zone extending through eastern Labrador and southern Alaska. Every State of the Union has contributed its quota, the total number of identified and catalogued North American specimens being well over 100,000. California is represented by over 11,000 specimens, Massachusetts by 3,000. The great bulk of the Canadian collections was obtained in Nova Scotia, though practically all parts of southern Canada are represented. The several Arctic expeditions in which the Museum has had a part have enriched its invertebrate collections by specimens from North Greenland and other areas within the Arctic Circle.

The *Insect* collections from North America are so large that it would be out of the question to number either species, specimens, or localities. The plotted information, however, shows that the area of the United States, Central America, and the West

Indies is well represented, the Middle Atlantic States, Florida and parts of the Rocky Mountain region being richest, although collecting localities include Newfoundland, Labrador, both Southwestern and Arctic Alaska, and Western Greenland. The northern parts of North America may be said, in general, to be rather weakly represented by specimens, but the insect fauna there is not rich.

In *Reptiles and Amphibians,* North America is again the best represented of the continents, partly because it is the region which has been most worked by Staff members of the Museum, but also because it is rather richer in genera and species of urodeles than any of the other great divisions of the earth. From the greater part of the Atlantic seaboard of the United States, from the northern Gulf Coast, the Great Basin, Lower California, the Olympic Mountain region, and several areas of Central America, nearly all known species of reptiles and batrachians have been obtained by the Museum. Throughout the remainder of the parts of the continent inhabited by animals of these groups, from 35 to 75 per cent. of the fauna is represented in the collections, which have grown nearly 1,000 per cent. during the course of fourteen years. Prior to 1900 we had no study collections of reptiles and amphibians; in 1909 there were about 6,000 specimens; today we have more than 57,000 adult specimens, and our collections may be ranked among the five largest in the country.

The Museum possesses an essentially complete collection of North American *Birds.* The representation is naturally larger than that from any other continent, partly because of the many historic collections which have been bequeathed to the Museum, and also because the wonderfully extensive private collections of Dr. Jonathan Dwight and Dr. Leonard C. Sanford are included in the present inventory. Not a single species of living or recently extinct bird from the part of the continent north of Mexico is lacking, with the possible exception of Pallas's cormorant, which is a doubtful member of the North American avifauna. Among the Museum's treasures are three great auks (including Dr. Sanford's example and the specimen deposited with us by Vassar College), also adequate series of the Labrador duck, the passenger pigeon, the Carolina parakeet, the Eskimo curlew, the heath hen,

and other striking forms which have been completely or nearly extirpated by man.

From the regions of Mexico and Central America, we have examples of all the known genera. With the exception of the Dwight Costa Rican collection and the Museum's Nicaraguan series, we have, however, no really adequate Central American material, being especially weak in the avifauna of Guatemala, Honduras, extreme southern Mexico and eastern Panama.

From the West Indies, the Museum possesses very nearly all the known species, although many of these are represented by only a specimen or two.

The distribution of the collections of *Mammals of the World* follows that of most of the other zoological groups, except that the Arctic lands are extremely well represented, the principal voids being in the area from Ungava to western Alaska and in part of the Mississippi valley. North America is represented by some 22,330 skins and skulls, of which California, with slightly more than 2,000 specimens, has the largest proportion of any single State, while Iowa, Indiana, South Carolina, Kentucky and Illinois are most poorly represented. British Columbia comes first and Newfoundland last in the Canadian area.

The division of the *Sciences of Man* has comprehensive *Archæological* and *Anatomical* collections from well distributed areas in eastern, southern and western North America, as well as general collections from the greater part of the continent, except the usually little explored regions of north central Canada, Ungava, and the far Northwest. In the case of *Ethnographic* material, the facts are rather the reverse, our principal treasures coming from the West and Northwest, the northern part of the Mississippi Valley, and the Arctic Coast including Greenland; while southeastern North America, including the West Indies, is very poorly represented except for small portions of Florida and the southern Appalachians.

SOUTH AMERICA

Among the chief collectors in South America are Messrs. Anthony, Bandelier, Beck, Beebe, Brown, Carriker, Chapman, Cherrie, Collins, Day, Miller, Murphy, Roosevelt, Spinden, Watkins.

Throughout most of this continent, *Geology and Invertebrate Palæontology* is represented by from 25 to 1,000 specimens from

each of the great political divisions. Argentina is the source of almost 1,000 specimens, while Ecuador, Paraguay and Uruguay are without representation.

In spite of the richness of South America in *Mineral* resources, only one per cent. of the Museum's total collection comes from Brazil, one per cent. from Chile, and less than one-half of one per cent. from the remaining territory.

In *Vertebrate Palæontology,* the South American section comprises about 4 per cent. of the total collection of fossil mammals and a smaller percentage of fossil reptiles. The nucleus of this is the Cope Pampean Collection, from Patagonia, with other collections from the same country made by Mr. Barnum Brown. A small amount of miscellaneous material represents Ecuador and other parts of South America. A considerable amount of late Tertiary and Pleistocene material has been secured from Cuba, Porto Rico and Jamaica.

In the Department of *Lower Invertebrates* we have an excellent series of fluviatile species, as well as terrestrial forms, such as myriapods, land mollusks, isopods and worms, from northern South America, both coastal and interior. The remainder of the collections comes chiefly from the fringes of the continent but includes every country, as well as outlying islands such as the Galapagos, Juan Fernandez, the Fuegian Islands, South Shetlands, Falklands, and South Georgia. The total number of South American specimens is 11,430. The greatest single collections from the continent bear labels referring to British Guiana and Patagonia.

The distribution of South American *Insect* collections is in the main similar to that of other invertebrates, except that the interior of the great Amazon Basin is surprisingly well represented by localities; and Doctors Crampton and Lutz conducted a successful expedition in British Guiana. In most instances this means but a few specimens, or perhaps only a single specimen, but in the case of no other branch of science, except Ornithology, is the continent of South America so generally covered.

Nine per cent. of our total collection of *Fishes* comes from South America, representing 60 per cent. of the genera known from that continent.

In *Amphibians and Reptiles* we have collections from the greater part of the continent, though large areas in the interior

are as yet unrepresented. From several important stations in the Andes and from British Guiana, 75 to 100 per cent. of the reptile and amphibian fauna has been obtained.

Our South American collection of *Birds* is constantly becoming more rounded out. We have excellent general material from the greater part of the continent, with the exception of eastern and southeastern Brazil and one or two other smaller areas. In general, we are strong throughout the Andean system, our intensive collections from Colombia and Ecuador being incomparably the finest in the world. Important among the recent South American accessions are the birds collected during Dr. Chapman's numerous expeditions, the Roosevelt-Cherrie collections from Matto Grosso, and others from Santa Marta, Peru, Chile, southern Patagonia and Tierra del Fuego.

Curator Anthony's work has led to a great increase in our collections of South American *Mammals*. Ecuador, represented by more than 5,000 specimens, leads the list, with Colombia second and Venezuela third. All the other republics have sent at least a small quota, but Chile, Patagonia, Paraguay, and most of north central South America are as yet very weakly covered by our material. The total number of mammals from South America is 11,650.

In the Division of *Anthropology,* the only comprehensive *Archæological* collections are from Peru, the mouth of the Amazon, and the Caribbean coast of Colombia. General collections in this field represent the greater part of the west coast of the southernmost tip of the continent. *Anatomical* material covers much the same field, Bolivia having yielded the greater part. In modern *Ethnographic* collections, the Cape Horn region, northern Chile, central Brazil and Colombia are represented by small general collections, the only series approaching completeness being from Venezuela and the borderlands of northwestern Brazil.

EURASIA

The chief collectors and explorers of Eurasia have been Messrs. Andrews, Berkey, Bickmore, Bogoras, Brown, Burden, Buxton, Faunthorpe, Granger, Jochelson, Laufer, Morris, Nelson, Osborn, Pope, Vernay. The great recent expansion of our Asiatic collections is due to the First, Second and Third Asiatic Expeditions, under Andrews; to the Indian Expedition under Faunthorpe and Vernay; to the expedition to the Siwalik Hills of India and Burma, under Brown.

In *Geology and Invertebrate Palæontology* the Museum collections cover Eurasia at least thinly from Sumatra to Spitzbergen

and from eastern Siberia to Spain. Portugal, Baluchistan, Tibet, Korea, the Malay Peninsula, and the greater part of the East Indies are unrepresented. The blank spaces of Mongolia are, however, being filled in by still unaccessioned material from the Third Asiatic Expedition. Japan, Siberia, Arabia, etc., have yielded both rock specimens and aërolites. Central Europe, particularly Germany and Austria, has yielded our richest collections, the number of invertebrate fossils from these areas alone exceeding 23,000.

The distribution of our *Minerals* is somewhat similar, with a weaker showing, however, from eastern Asia and Malaysia. Southern Europe, from which 14 per cent. of our entire collection of minerals has been derived, comes second to the United States. Western Europe, comprising France, Spain and the British Isles, has yielded 10 per cent.; Central Europe, from Denmark to the Balkans, 8 per cent. Scandinavia and Iceland have furnished 5 per cent.

In *Vertebrate Palæontology,* the collections from Eurasia comprise about 7 per cent. of the total collections of fossil vertebrates. Their most important constituents are the material from Mongolia and Sze-Chuan, China, secured by the Third Asiatic Expedition, and from the Siwalik Hills of India by Mr. Barnum Brown. Other important items are the ichthyosaur skeletons from the Jurassic of Bavaria and a series of casts of fossil man from various localities in Europe.

In *Lower Invertebrates,* the greater part of our Old World collections comes from Europe, particularly from western Europe and the Mediterranean Basin. The European specimens number 14,235, of which 5,000 are Mediterranean and 3,000 British. The Asiatic collection is even larger than the European, but the great bulk of material comes from the seaboard of southern Asia, all of the continent north of the Himalayas and stretching from the Baltic to the Sea of Okhotsk being a blank on the distributional map. Of all parts of the world, this region most needs working from the point of view of this department. Large series of mollusks from Ceylon, the Indian Ocean, China, Turkey, etc., represent in part the work of the Third Asiatic Expedition and that of Mr. Barnum Brown. Other material from China has not yet been officially accessioned.

The collections of *Insects* cover Eurasia, as well as the other continents, more evenly than those of any other department of the Museum. This is doubtless due to the fact that a considerable portion of our Old World collection has been derived from private enthusiasts who added extensively to their collections by purchase and by exchange. Practically no political division, from Iceland to Bering Sea and from the East Indies to Nova Zembla, has failed to yield at least a small quota of insects to the American Museum. In many cases, of course, the representation from any given region is slight.

Five per cent. of our fresh-water *Fishes* comes from Europe and 15 per cent. from Asia. From the latter division of the continent we now have half the number of known genera, Europe being considerably better represented. Four per cent. of our total collection of fishes is made up of Mediterranean marine forms.

In *Amphibians and Reptiles,* only the southerly fringes of the great continent of Eurasia have supplied adequate series. We have more than one-half of the existing species from Great Britain, western continental Europe, Austria, and parts of Asia, but the only regions adequately worked thus far are eastern China and Formosa.

The Museum possesses no general collection of *Birds* covering the vast territory of Eurasia. We have, however, excellent material from several widely separated parts of the continent. Two of our older collections are largely made up of European birds, the first of these being that of Prince Maximilian of Wied, and the second, the Mearns collection. Dr. Dwight has most of the European water birds, together with considerable additional material from Scandinavia.

Few parts of Asia are well covered by the ornithological collections, and we have little or nothing from Asia Minor, Persia, Turkestan or western Siberia. The Buxton collection from eastern Siberia gives us at least a fragmentary representation which is rich in coastal species and water fowl. Both Dr. Dwight and the Museum have long owned small but well chosen collections of Chinese birds which are being rapidly enriched through the field work of the Third Asiatic Expedition. Acquisition by exchange of two considerable collections from Japan has helped to fill important gaps from that part of Asia, while India, Assam, Siam, Ceylon

and other parts of southern Asia have yielded important material through the field work of Murray, Crozier, Beebe, Bulkley, and more recently that of the Faunthorpe-Vernay Indian Expedition.

Of all the particularly important parts of Asia, the Malay Peninsula and the islands of the East Indies are most poorly represented. We have next to nothing, for example, from New Guinea except a few old mounted specimens. The Wilson collection from the Malay Peninsula, together with birds obtained by Weber in Sumatra, by Raven in Celebes, by Porter and White in the Philippines, and by Andrews in Formosa, Borneo, etc., give us at least a few samples of the wonderfully rich bird life of these regions.

Of *Mammals* we have only 387 specimens from Europe, but close to 9,000 from Asia. A great belt of territory, which makes up the largest single expanse of land on earth and which extends from the Mediterranean northeastward to the Arctic Ocean, is as yet a blank to us. Practically all the Asiatic mammals are new acquisitions and in general they cover the southeastern Pacific face of the continent from India to Bering Strait. The great majority of our specimens has been received from the Asiatic expeditions, but sight should not be lost of the remarkably complete Indian collections obtained by the Faunthorpe-Vernay Expedition and by Mr. Douglas Burden, or of the Malaysian collections made by Mr. Andrews during his earlier work.

In the Division of *Anthropology,* we have comprehensive (*i.e.* fully adequate) *Archæological* collections of material from the coasts of France, the Low Countries, Germany, Denmark and from the Swiss Lake region. Similar representative collections come from the eastern tip of Siberia and from a small area of eastern Manchuria. General or scattered collections in *Archæology* have had their origin in the British Isles, Scandinavia, Spain, Turkestan, South India, Central Siberia, Indo-China, China and Korea. In *Anatomical* material, our only comprehensive collection is from Hungary. This is supplemented by general collections from Scandinavia, Central Europe, the East Indies, etc. The modern *Ethnographic* material is best represented by the great Siberian collections from the region close to the Arctic Circle, and from parts of southeastern Asia including the Philippines.

AFRICA

Among the collectors who have enriched our African collections may be named Messrs. Akeley, Barnes, Broom, Brown, Chapin, Clark, Granger, Johnson, Lang, Osborn, Rainey, Rainsford, Roosevelt, Tjader.

The *Geological* material from Africa includes an extraordinarily large number of invertebrate fossils from Abyssinia, together with scattering collections of fossils, rocks and meteorites from northeast Africa, the Congo Forest Belt, and temperate South Africa. Practically all of West Africa, including the Sahara, and of southeast Africa and Madagascar, are unrepresented.

In *Minerals* the continent is sparsely developed and therefore is represented by few specimens.

The African element in the collections of *Vertebrate Palæontology* comprises about 3 per cent. of the total. It consists chiefly of the collection of Eocene and Oligocene mammals from the Fayûm District in Egypt, and the Broom collection of Permian reptiles from South Africa.

We have more than 40,000 examples of *Lower Invertebrates* from Africa, but the greater part is from the Congo Forest region and was obtained during the long sojourn of Messrs. Lang and Chapin. There are 28,700 specimens in this, the largest single collection that has ever been accessioned by the department. Other important sources have been British East Africa, the Union of South Africa, French West Africa, the Island of Mauritius, and the Cape Verde archipelago. The same general facts apply to the Department of *Insects,* but in addition to the great collection of Congo forms, almost the entire shore line of the continent is covered to a certain extent, the principal voids lying in the Sahara and in the arid parts of south central Africa.

The fresh-water *Fishes* of Africa make up 9 per cent. of our total collection and 60 per cent. of the genera known from the continent. Fifty per cent. of the known genera of fishes in the Indian Ocean is also to be found in our study collection and may well be noted here.

The Department of *Herpetology* shows again the importance and far-reaching effect of the great Congo Expedition, because almost 100 per cent. of the known amphibians and reptiles from the Congo Forest is represented in the Museum. Other important collections of reptiles and amphibians come from South Africa,

and from East Africa near the mouth of the Red Sea. Our remaining specimens are chiefly coastal and from scattered localities, although Madagascar has given us possibly one-tenth of its known herpetological fauna.

Our only full and adequate collections of African *Birds* are those obtained in the Belgian Congo during the memorable Lang-Chapin Expedition. More than 75 per cent. of the species occurring in the Congo Forest is represented in the Museum collections, mostly in the form of excellent series. We also have many species from the Cameroon. North Africa has as yet yielded us scarcely any part of its avifauna, with the exception of a few skins from Egypt. We have nothing from the great desert area and only a little from upper Guinea and the region of the White Nile. A collection of East African birds obtained during the Tjader-Lang Expedition has been recently enhanced through the purchase of the Loveridge collection from Tanganyika Territory. Other small collections bear the labels of localities in Natal and Rhodesia, but we have practically no material from Cape Colony, Southwest Africa or Angola.

Madagascar is represented by species which cover the majority of the genera. The greater part of these are the result of recent purchases from Professor Lamberton.

The *Mammalian* collections are principally from Central Africa, the Congo, and the Lake Region, the country about the head-waters of the Nile, etc., having yielded the greater part of our 6,500 specimens. In amassing this material, the work of Lang, Chapin and Akeley comes first, although the contributions by the very large number of the Museum's friends have filled very important gaps. In general it may be said that we are woefully deficient in mammals from all of North and West Africa and from the greater part of South Africa. It should be added that only the larger so-called "game" mammals are adequately represented. The only exception pertains to the Congo Region and Tanganyika territory, in which Lang and others devoted as much attention to rodents, insectivores and other small groups as to the more spectacular forms. We have little material worth mentioning from the important Madagascan field.

In *Anthropology,* we have no comprehensive *Archæological* or *Anatomical* African material. Comprehensive *Ethnographical* col-

lections have been brought to the Museum from the Central Forest Region, Central South Africa and the Gold Coast, while the rest of the continent south of 15° N., and including Madagascar, has yielded fairly good general collections. From north of the Sahara, we have nothing.

AUSTRALIA

Beginning our work in Australia are the following collectors and explorers: Messrs. Crampton, Gregory, Hovey, Hurley, Raven.

From Australia the Museum has 38 *Invertebrate Fossils,* 272 *Rock* specimens and 36 *Aërolite* specimens. Australian *Minerals* constitute 1½ per cent. of our total.

Vertebrate Palæontology has little Australian representation in the collections. Its contributions constitute not more than one per cent. at the most. The chief element in this division of the collection is casts of *Diprotodon* and other Pleistocene vertebrates, with a small amount of original material.

Invertebrate Zoology has slightly more than 2,000 specimens, from localities on the west and north coasts. The *Insects* are likewise all from coastal stations, including (as in the case of other invertebrates) Tasmania and New Zealand.

The Australian *Fishes* are mostly new to the Museum, but they make up 2 per cent. of our total collection and cover 60 per cent. of the known genera. The First Australian Expedition brought home 150 fresh-water fishes, including both lung fishes and *Periopthalmus.*

We owe the greater number of our specimens of *Amphibians* and *Reptiles* to the same expedition. These now number more than 500, which come mostly from southeastern Australia and Tasmania.

Our principal representation of Australian-New Zealand *Birds* has been obtained by exchange, although the recent work of Mr. Raven in eastern Australia and Tasmania has added materially to our series. We still lack a considerable number of Australian genera and have, in fact, practically nothing from the western half of the continent. Doctor Sanford has recently given special attention to the New Zealand avifauna, and through both exchange and purchase we have filled gaps among the water birds and have acquired many of the rarer terrestrial forms, including several now on the verge of extinction. Mr. J. Sanford Barnes

has made an important addition to the Neozelanic collection by recently presenting a specimen of the extremely rare extinct ground parrot of Chatham Island.

The Australian *Mammals* number 1,337 specimens, of which more than 200 are skeletons. Eighty-five per cent. of all the genera of Australian marsupials and monotremes are now in the Museum's collections, but it should be noted that we have no mammalian collections from the western eight-tenths of the Island Continent.

In *Anthropology,* a few general *Archæological* collections come from extreme southeastern Australia. Comprehensive *Anatomical* material, including a skeleton and 30 skulls of Australian aborigines, represents the central part of the continent, while New Zealand has supplied us far more adequately. Our only *Ethnographic* specimens come likewise from Central Australia and New Zealand.

OCEANIC ISLANDS

Our surveys and collections in Oceanic Islands include the names of Messrs. Andrews, Beck, Beebe, Bennett, Bickmore, Brown, Chapman, Comer, Correia, Crampton, Lucas, Lumholtz, Murphy, Townsend.

Oceanic Islands, as here used, include not only Polynesia but all the island areas excepting such large continental islands as those of the West and East Indies, New Zealand, and the small bodies of land lying close in shore on the continental shelves.

The Department of *Geology and Invertebrate Palæontology* has not only certain specimens dredged from various parts of the oceans but also a creditable series from many Atlantic islands, including the Azores, Bermuda and South Georgia. The Pacific islands and those of the Indian Ocean have yielded much less, although we have 7 invertebrate fossils, 55 rock specimens, and one meteorite from Hawaii, as well as a single meteorite from Mauritius.

All the oceans and nearly all the seas, with their subdivisions, have contributed to the collections of *Invertebrate Zoology.* The insular collections come from many areas between the Arctic lands and the South Shetland group on the threshold of the Antarctic. In Polynesia, practically every important insular group is represented, and many of the small isolated islands as well. The Whitney South Sea Expedition has done considerable to swell the recent growth of material from this part of the world. The Mascarene

and other islands of the Indian Ocean have likewise yielded specimens, while the Atlantic representation includes material from Bermuda, the Azores, Madeira, the Canaries, the Cape Verdes, Ascencion, St. Helena, the Falklands, and South Georgia, besides the South Shetland Islands already mentioned. Nine thousand eight hundred specimens bear Hawaiian labels, 1,500 Society Islands labels, and several thousand more are still to come to us from Professor Crampton's last expedition. Among other interesting Pacific localities to be noted are Juan Fernandez, Easter Island, and the Galapagos, the greater part of the material from the last group bearing the labels of Mr. Beebe's recent expedition.

Insular *Insects* are less well covered by the Museum's collections. We have, however, a scattering of specimens from many Polynesian localities and from the Falkland Islands, together with more representative series from Bermuda, the Galapagos and Hawaii.

Fishes are treated fully under the continental headings. It may be well to note here, however, that not less than one-half of the known genera are represented in our collection from any oceanic area. This is true even of the Antarctic region.

Island *Herpetology,* which includes only reptilian and chiefly lizard fauna, is poorly represented from the greater part of Oceanica, although the Harrison Williams Galapagos Expedition of the New York Zoological Society has given us a good representation from the Galapagos, and the Whitney South Sea Expedition particularly fine series from southern Polynesia and the Marquesas Islands. Our Hawaiian collection is also fairly adequate, although it includes rather less than 75 per cent. of the known fauna.

Island *Birds* are in general among the rarest in museum collections, but through the field work of the Whitney South Sea Expedition, the American Museum of Natural History has acquired the best representation of the little-known Polynesian avifauna which has ever been brought together. The expedition has been at work since September, 1920, and has thus far made collections at about ninety different islands. Through the coöperation of the Bishop Museum of Honolulu, the value of our Pacific insular material has been greatly increased by the acquisition of an almost complete representation of Hawaiian birds, including all but two or three forms of the curious and rare Drepanids.

Through earlier work, the Museum had already come into possession of splendid collections of birds from most of the maritime regions except the Indian Ocean area. Thus the work of Comer, Murphy and Correia had covered many of the north and south Atlantic islands. Beck, Chapman and Murphy had obtained collections of birds along the greater part of the South American coast line, including Juan Fernandez, the Falkland Islands and South Georgia. More recently, Bennett has sent material from the South Shetland Islands. The Galapagos, the Aleutians, and other Pacific groups have been well covered by Beck, Beebe and other naturalists.

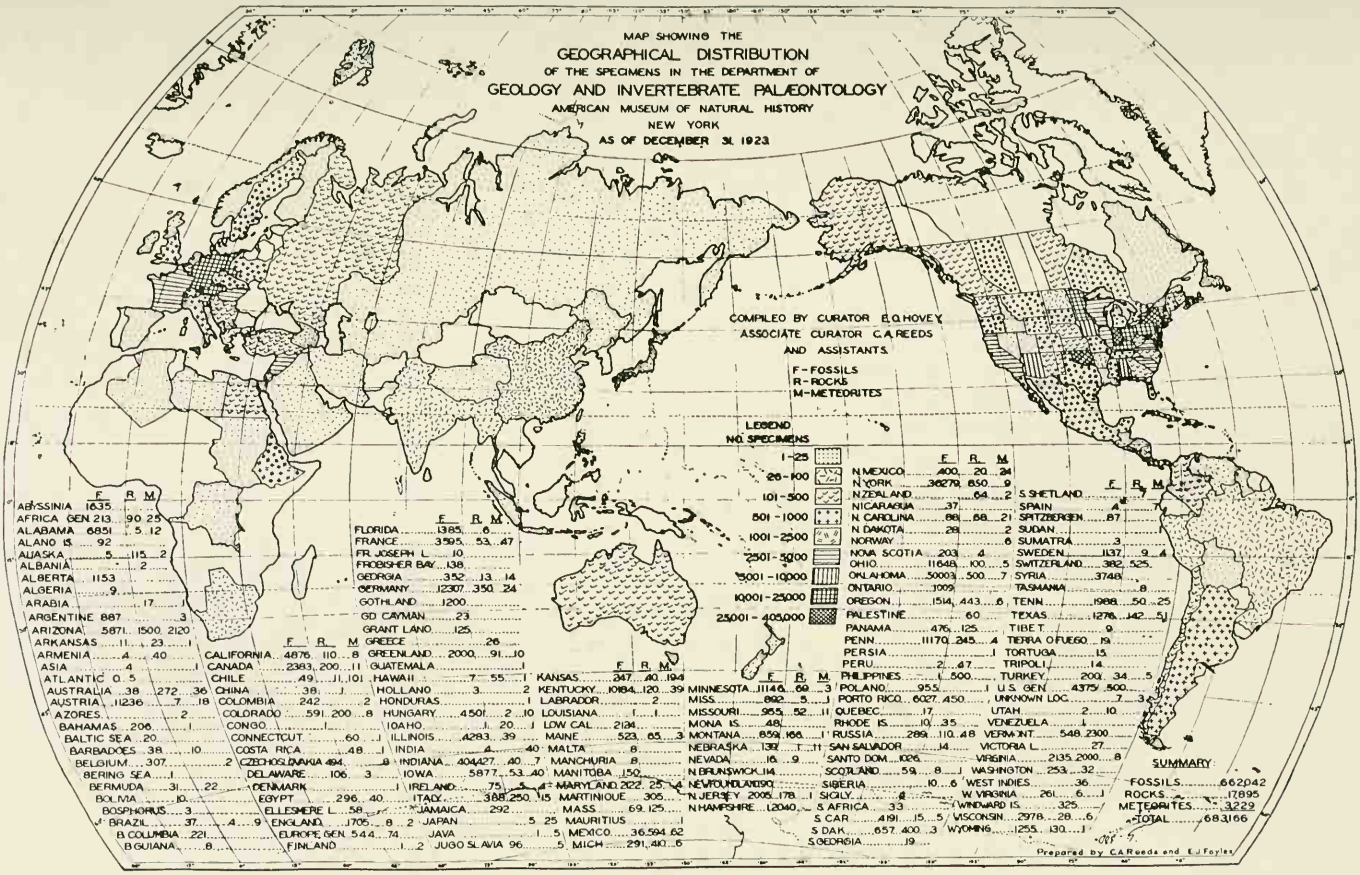
In *Marine Mammals* all the large species of whalebone whales —with the exception of the humpback and bowhead—are represented in the collections. There is no example of the latter species in any museum in the United States. The small *Neobalæna* of the Antarctic is still a desideratum.

The Museum also has examples of the sperm whale and *Kogia,* the last from several localities. Examples of the larger *Ziphiidæ,* such as *Ziphius* and *Berardius,* are desiderata, but *Mesoplodon* is represented by species including the type *bowdoini.* About one-third of the recognized species of smaller toothed whales, from the killer down, are represented, the Museum being particularly rich in northern species, from both the Atlantic and Pacific.* The Museum is poor in the southern species of dolphins and in the fresh-water forms, having specimens of only two of the latter.

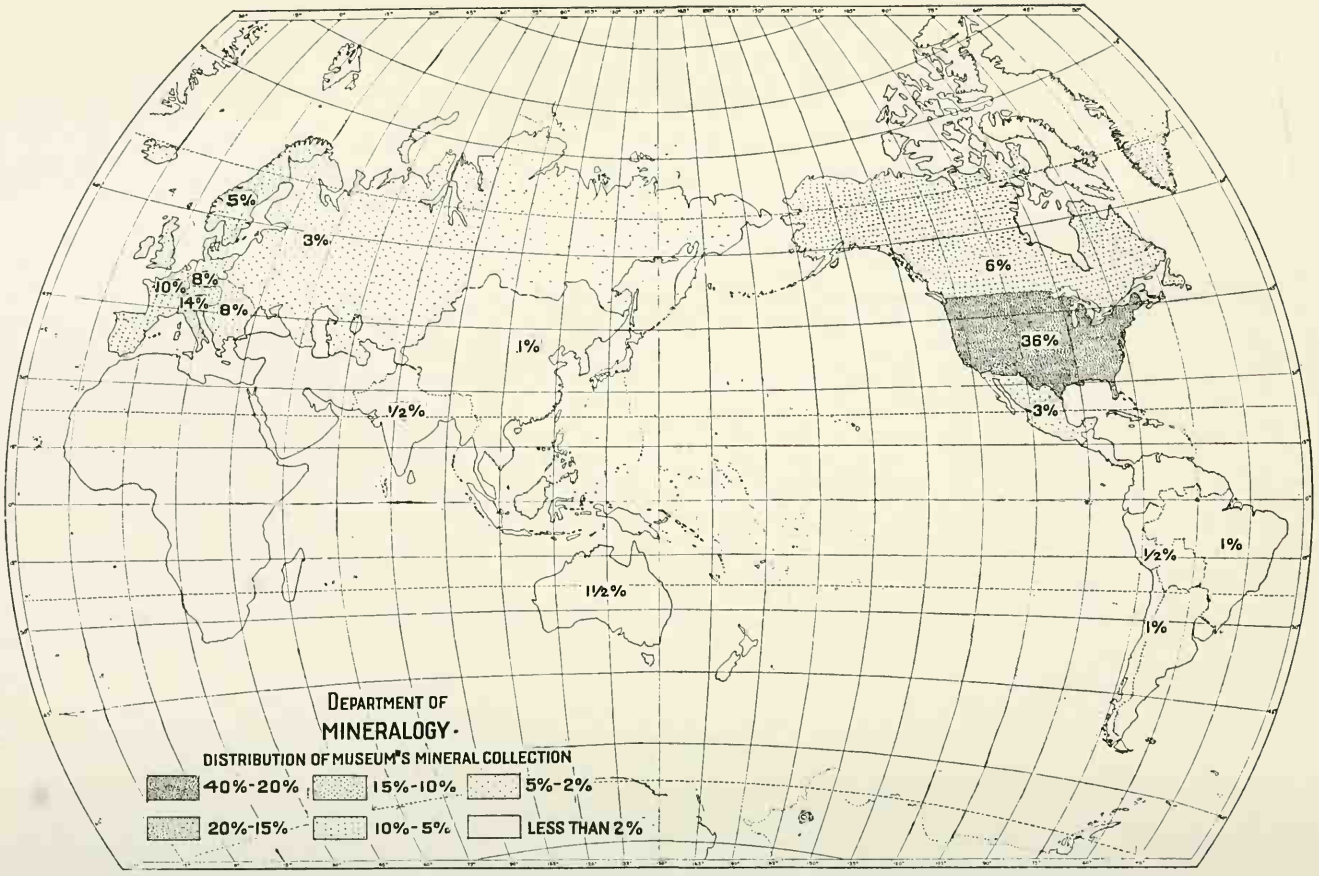
All species of Pinnipeds found in the North Atlantic are represented, and also the tropical *Monachus;* from the North Pacific we lack only the walrus and the Laysan *Monachus.* The Mediterranean *Monachus* and the Caspian seal are also desiderata. The seals of the South Atlantic and South Pacific are almost entirely absent from the collections, which contain not a single eared seal, only skulls of *Mirounga,* and skeletons of Weddell's seal and the sea leopard.

In *Anthropology,* our insular collections come almost exclusively from the Pacific archipelagoes. Polynesia, including Hawaii, and the Melanesian groups east of New Guinea, have supplied us with general *Anatomical* material, while the entire central Pacific region is reasonably well represented by *Ethnographic* specimens.

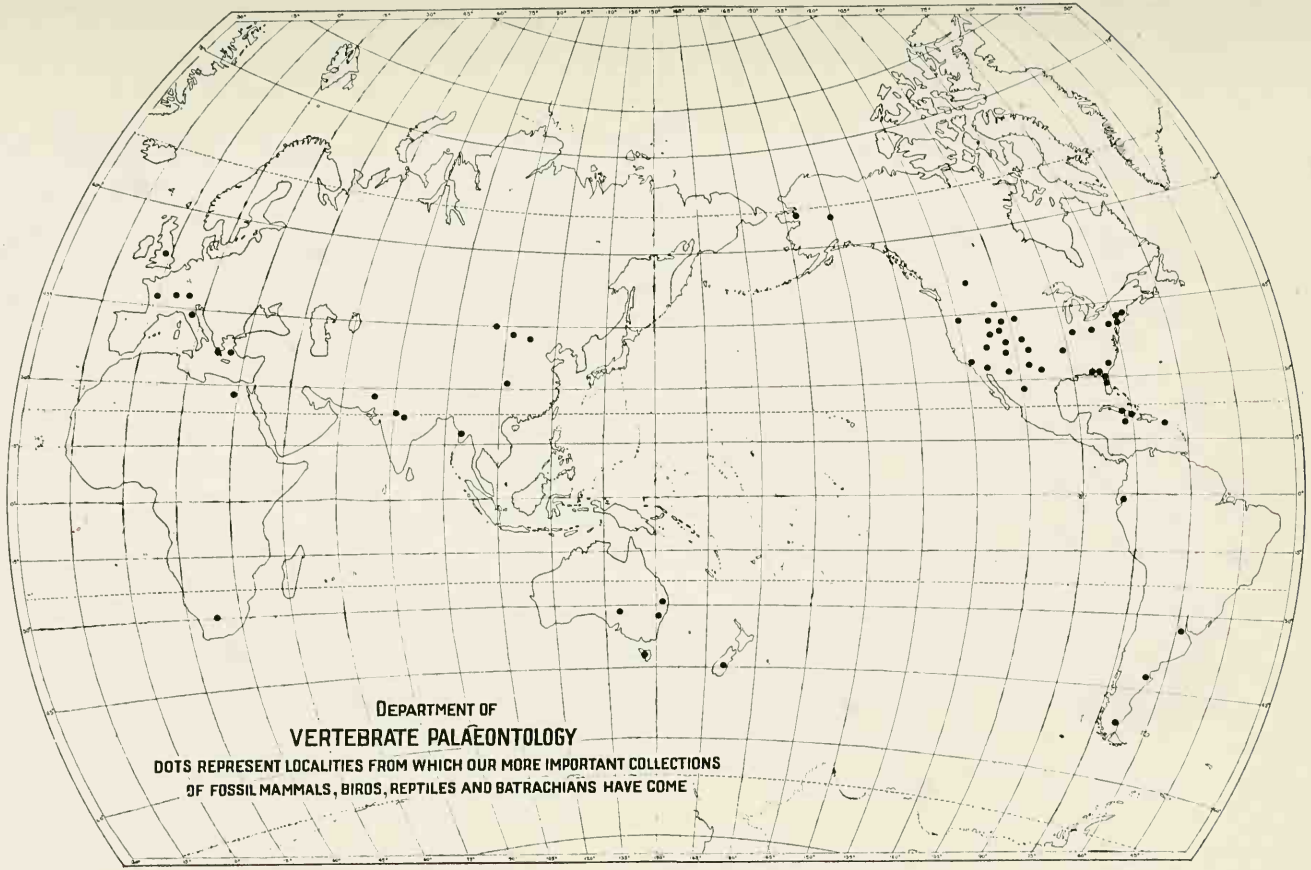
*Among them is the type of the singular True's dolphin.


MAP SHOWING THE
GEOGRAPHICAL DISTRIBUTION
OF THE SPECIMENS IN THE DEPARTMENT OF
GEOLOGY AND INVERTEBRATE PALÆONTOLOGY
AMERICAN MUSEUM OF NATURAL HISTORY
NEW YORK
AS OF DECEMBER 31, 1923
COMPILED BY CURATOR E.O.HOVEY
ASSOCIATE CURATOR C.A.REEDS
AND ASSISTANTS.
F - FOSSILS
R - ROCKS
M - METEORITES
LEGEND
NO. SPECIMENS
1-25
26-100
101-500
501-1000
1001-2500
2501-5000
5001-10000
10001-25000
25001-405,000
SUMMARY
FOSSILS 662042
ROCKS 17895
METEORITES 3229
TOTAL 683166
Prepared by C.A.Reeds and E.J.Foyles

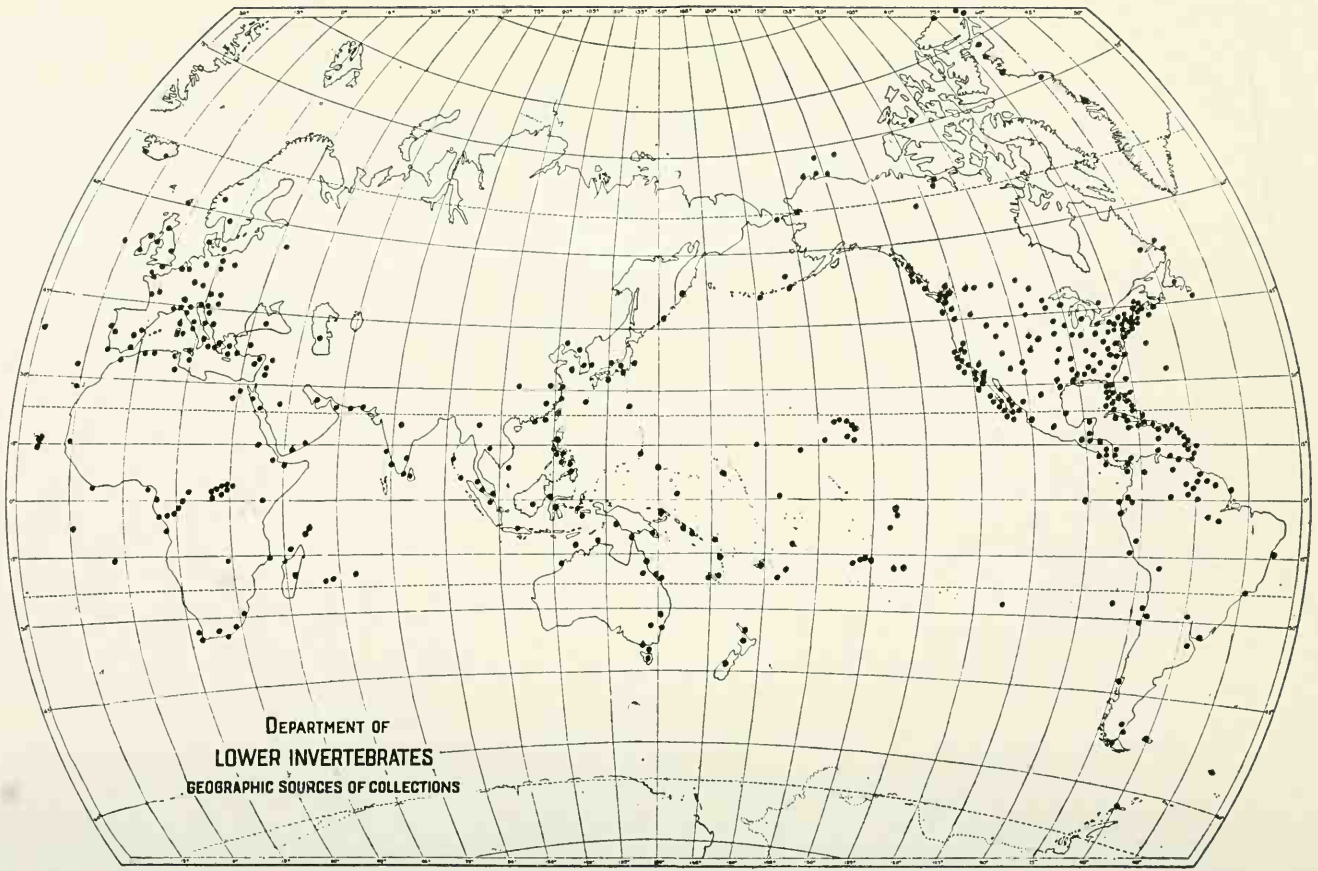
MAP I


5%
3%
10%
8%
14%
8%
1%
½%
6%
36%
3%
1%
½%
1%
1½%
DEPARTMENT OF
MINERALOGY.
DISTRIBUTION OF MUSEUM'S MINERAL COLLECTION
40%-20%
15%-10%
5%-2%
20%-15%
10%-5%
LESS THAN 2%

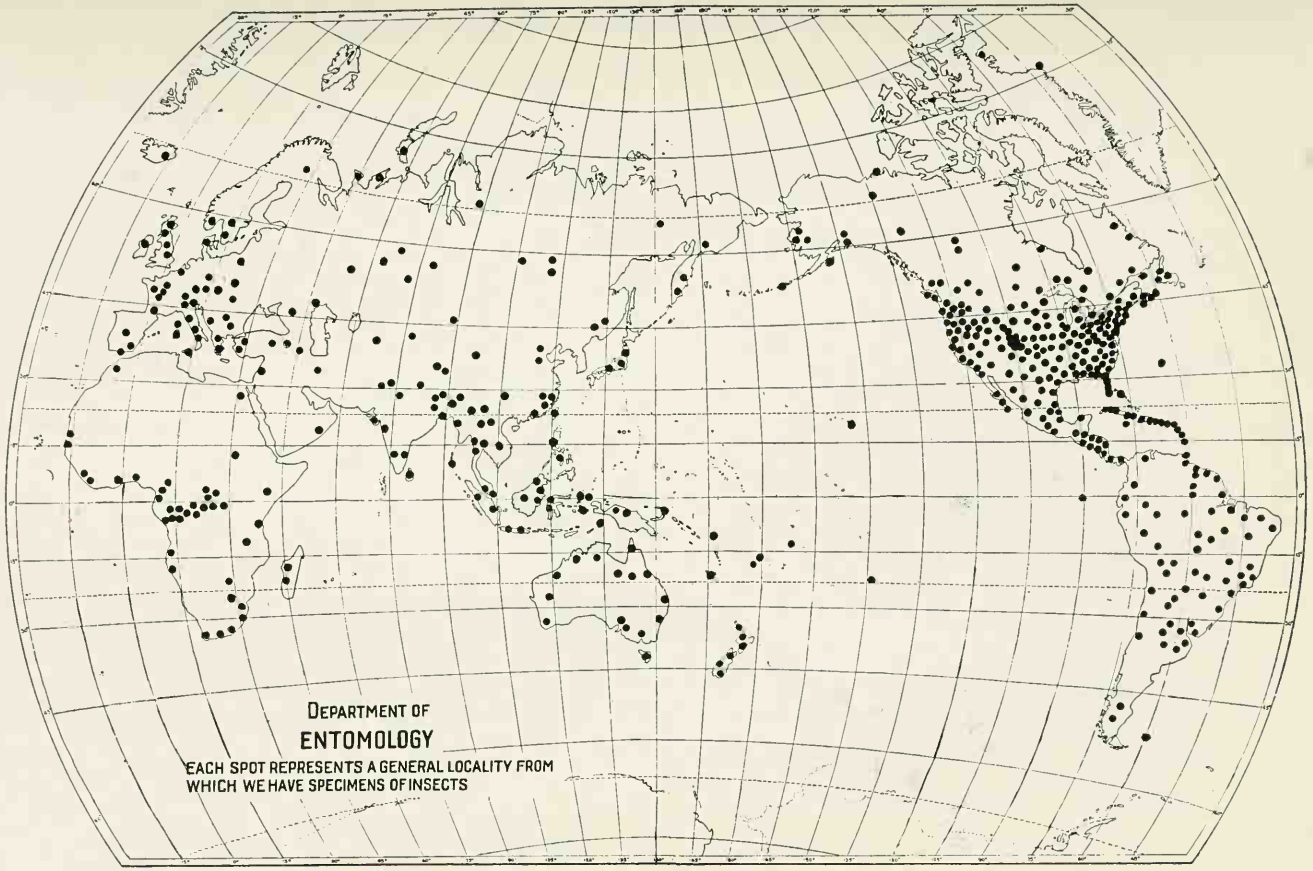
Map II


DEPARTMENT OF
VERTEBRATE PALÆONTOLOGY
DOTS REPRESENT LOCALITIES FROM WHICH OUR MORE IMPORTANT COLLECTIONS
OF FOSSIL MAMMALS, BIRDS, REPTILES AND BATRACHIANS HAVE COME

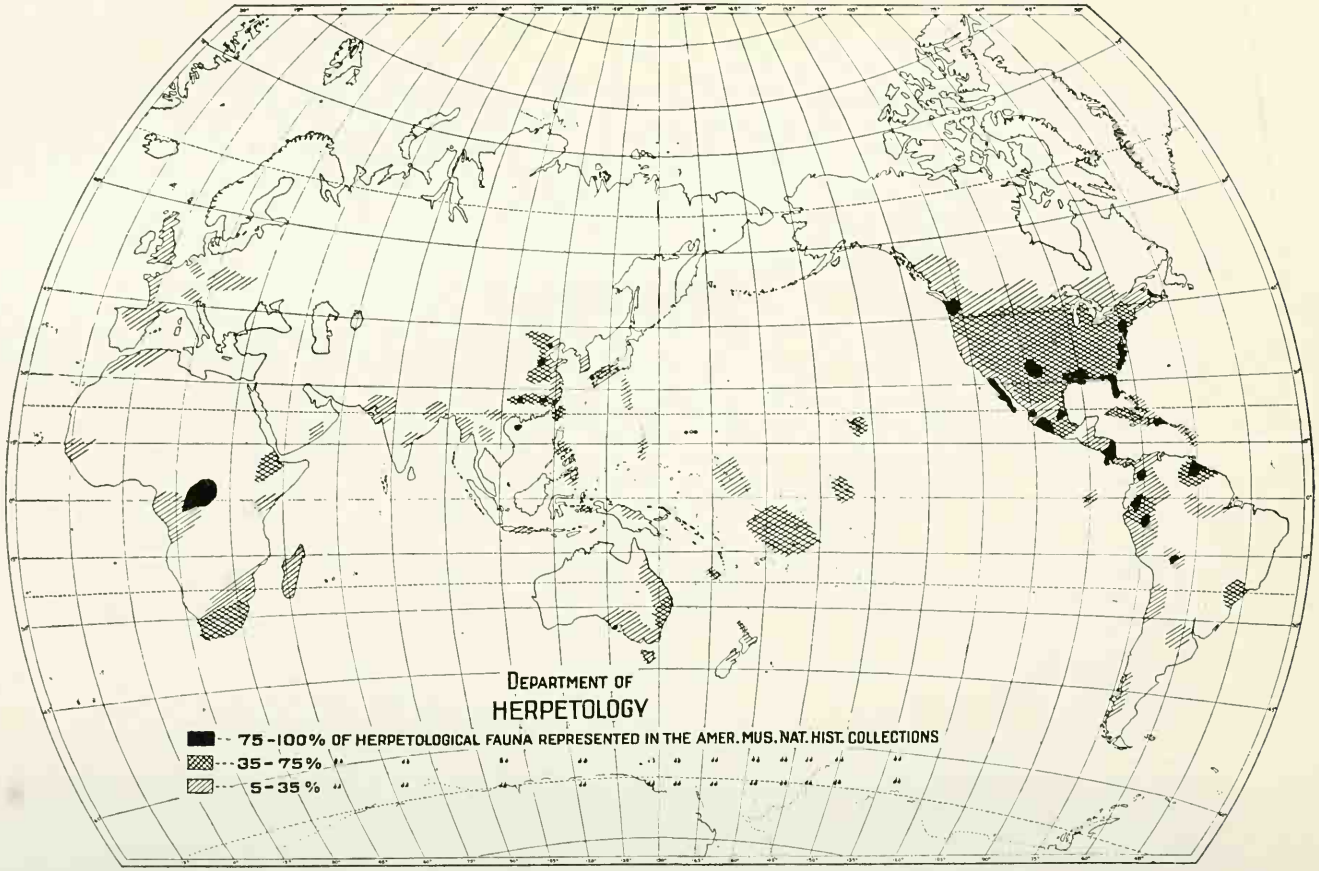
MAP III


DEPARTMENT OF
LOWER INVERTEBRATES
GEOGRAPHIC SOURCES OF COLLECTIONS

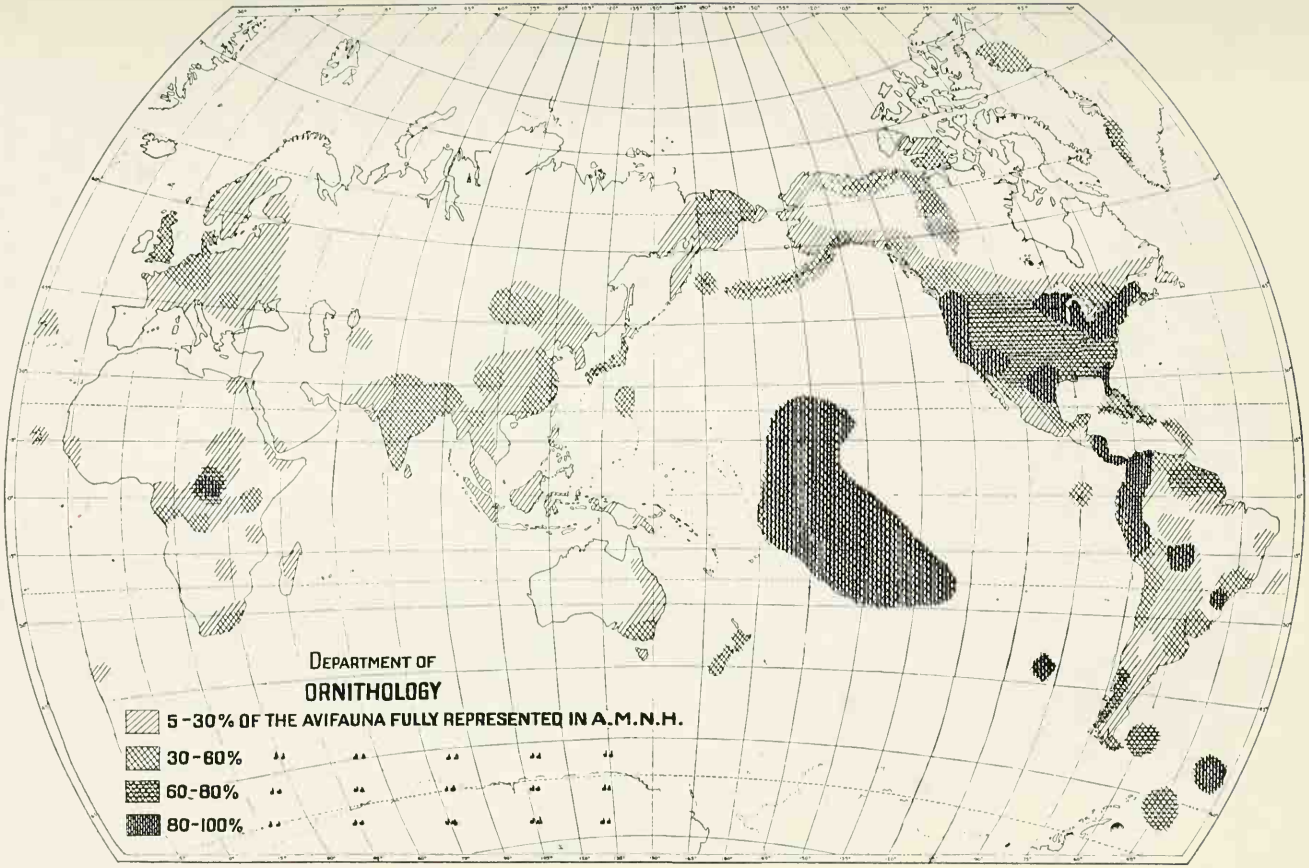
MAP IV


DEPARTMENT OF
ENTOMOLOGY
EACH SPOT REPRESENTS A GENERAL LOCALITY FROM
WHICH WE HAVE SPECIMENS OF INSECTS

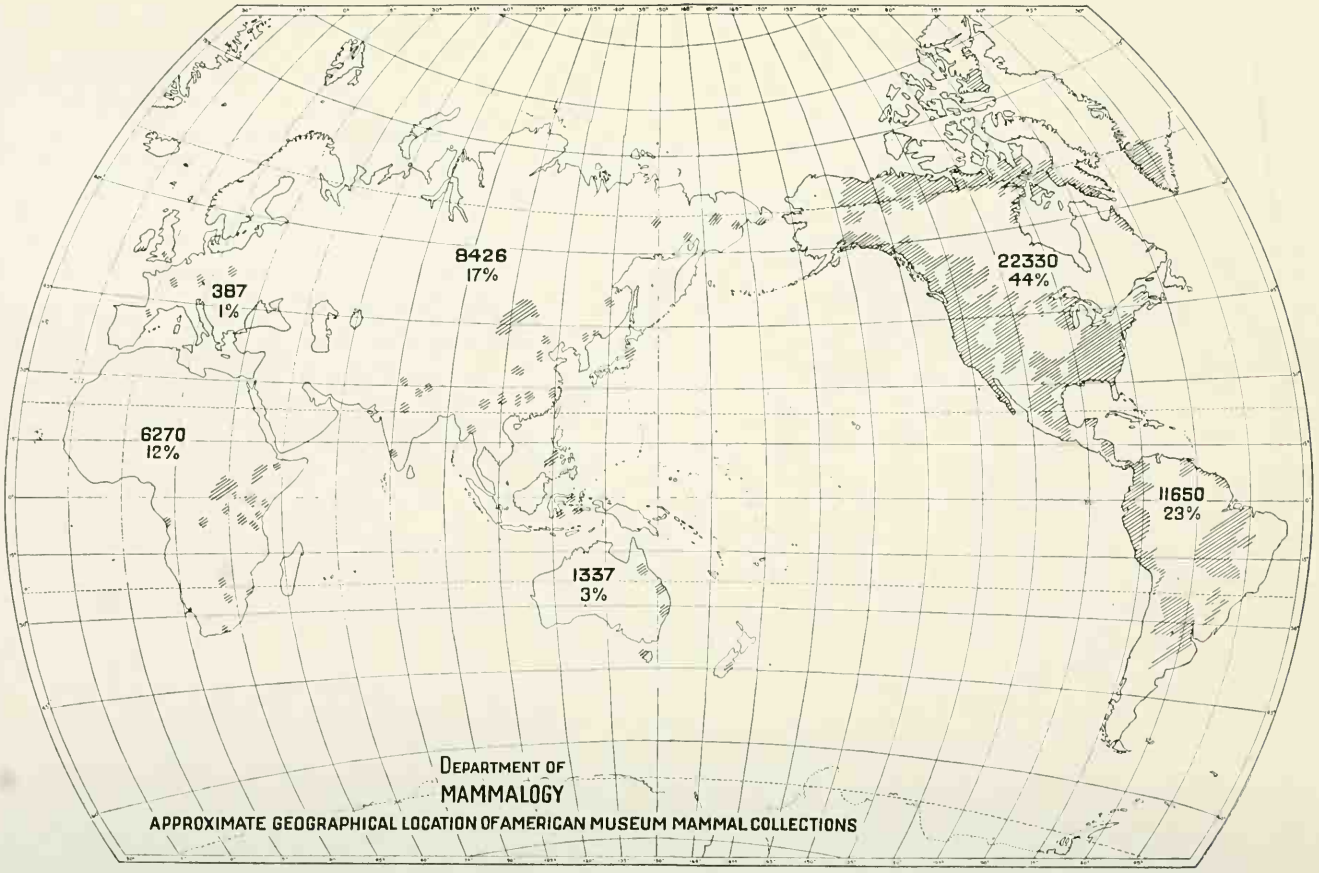
MAP V


DEPARTMENT OF
HERPETOLOGY
75-100% OF HERPETOLOGICAL FAUNA REPRESENTED IN THE AMER. MUS. NAT. HIST. COLLECTIONS
35-75% " " " " " " " " " " " " "
5-35% " " " " " " " " " " " " "

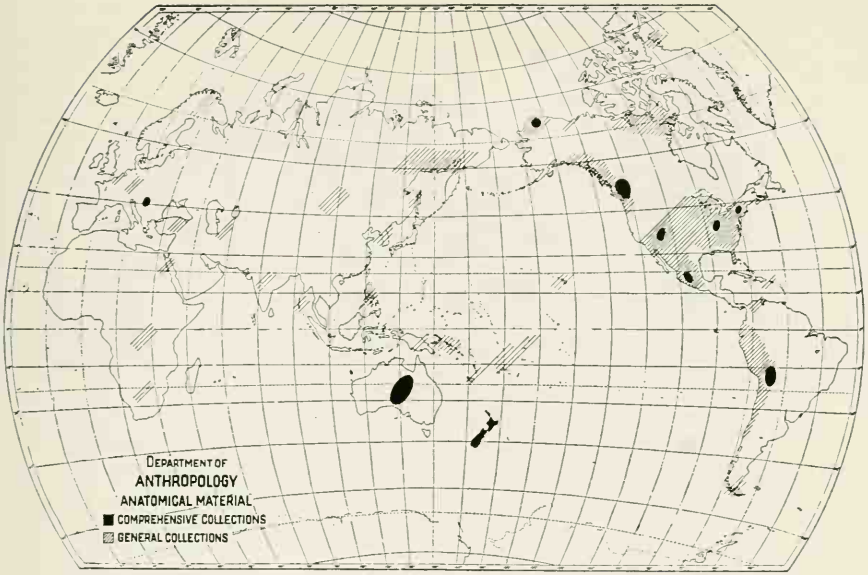
MAP VI


DEPARTMENT OF
ORNITHOLOGY
5-30% OF THE AVIFAUNA FULLY REPRESENTED IN A.M.N.H.
30-60% " " " " "
60-80% " " " " "
80-100% " " " " "

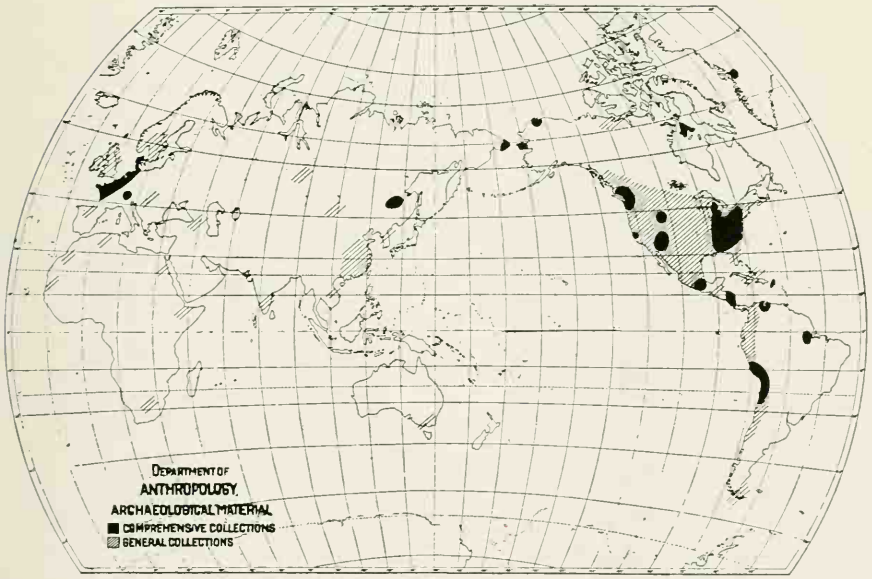
MAP VII


8426
17%
22330
44%
387
1%
6270
12%
11650
23%
1337
3%
DEPARTMENT OF
MAMMALOGY
APPROXIMATE GEOGRAPHICAL LOCATION OF AMERICAN MUSEUM MAMMAL COLLECTIONS

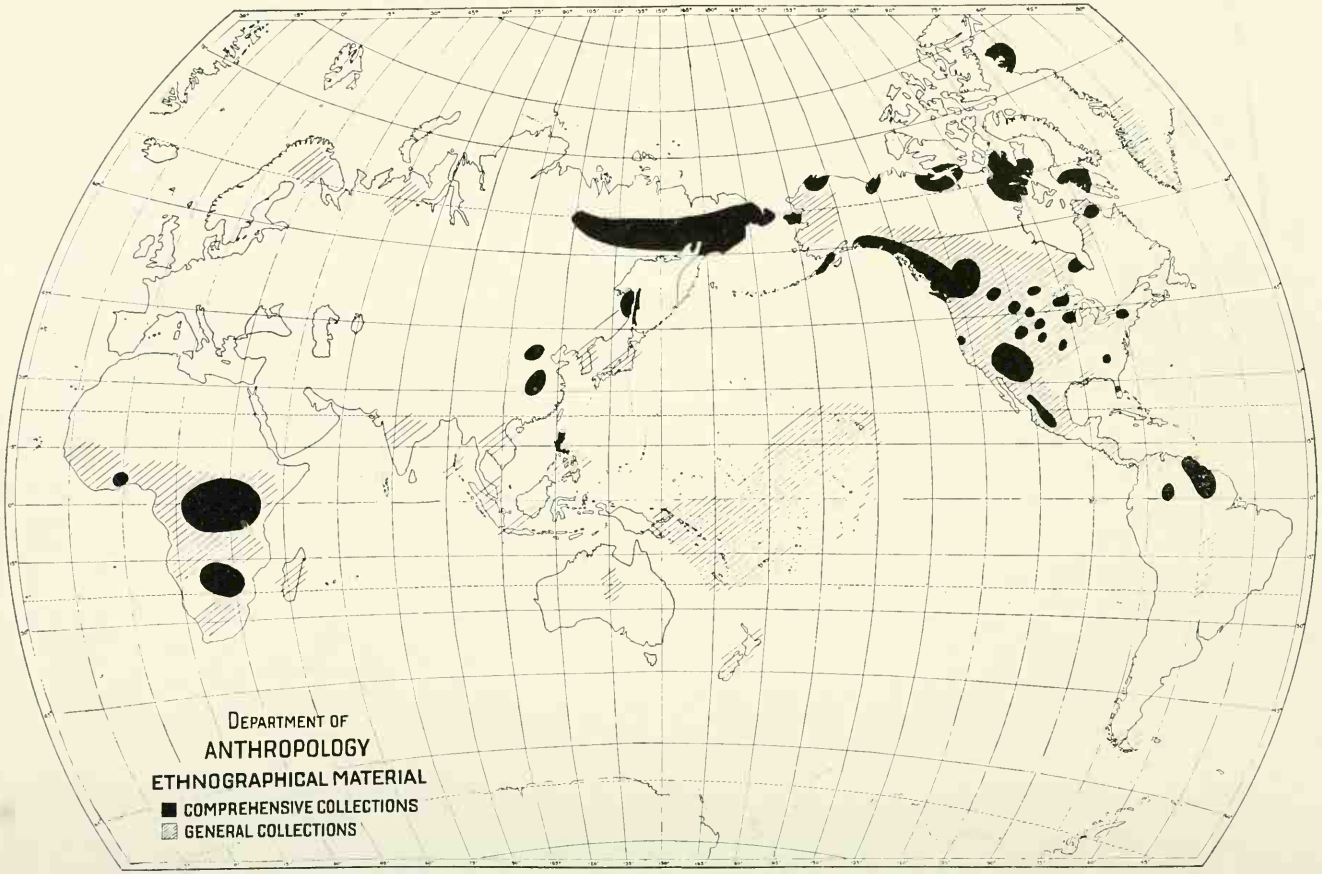
MAP VIII


DEPARTMENT OF
ANTHROPOLOGY
ANATOMICAL MATERIAL
COMPREHENSIVE COLLECTIONS
GENERAL COLLECTIONS

MAP IX


DEPARTMENT OF
ANTHROPOLOGY.
ARCHAEOLOGICAL MATERIAL
COMPREHENSIVE COLLECTIONS
GENERAL COLLECTIONS

MAP X


DEPARTMENT OF
ANTHROPOLOGY
ETHNOGRAPHICAL MATERIAL
COMPREHENSIVE COLLECTIONS
GENERAL COLLECTIONS

MAP XI

GEOGRAPHIC DISTRIBUTION OF COLLECTIONS

Rocks, Fossils and Meteorites

The collections of the Department of Geology and Invertebrate Palæontology comprise not fewer than 17,895 rocks, 662,042 fossils and 3,229 meteorites. The geographical distribution of these specimens, according to the major political divisions, is shown on the world chart, Map I. On this chart two methods of presentation have been employed: one, a graphic generalized series of line symbols for the larger land areas; the other, an alphabetical list of the names of the countries with their numerical representation entered opposite, arranged across the lower portion of the map.

Minerals

As with all large mineral collections, that of The American Museum of Natural History includes mineral specimens gathered from all parts of the world. In order to arrive at an approximate estimate of the proportional distribution of the localities represented, two representative blocks of five cases each were selected and a detailed analysis of the geographical distribution of the 6,000 specimens contained in them was made, Map II.

The estimated distribution of specimens is as follows:

Canada—Greenland	6%
United States	36%
Mexico	3%
Brazil—Uruguay	1%
Peru—Bolivia	½%
Chile	1%
Western Europe	10%
Central Europe	8%
Southern Europe	14%
Southeastern Europe	8%
Northern Europe	5%
Russia, including Siberia	3%
Japan—China	1%
India	½%
Australia	1½%
Scattering	1%

Fossil Vertebrates

On Map III are shown in solid circles the areas from which the more important collections of fossil mammals, birds, reptiles and batrachians have come. All continents and almost every important fossil field are represented in our collections. North

America, the richest fossil field in the world, has yielded about 85 per cent. of our entire collection, and most of these specimens are from the Rocky Mountain region.

Estimated distribution of specimens:

North America	85%
South America (including West Indies)	4%
Eurasia	7%
Africa	3%
Australia	1%

Lower Invertebrates

The chief areas not represented in the Lower Invertebrate collections are deserts and the great grassy plains, and certain regions as yet not sufficiently explored. This is apparent from Map IV.

The following table summarizes the chief regions represented:

Geographic Region	*Number of Specimens*	
United States	46,784	
Canada	3,498	
Greenland	449	
Mexico	6,478	
Central America	1,176	
West Indies	49,170	
Total, North America	107,555	
South America	11,430	
Total, New World		118,985
Europe	14,235	
Asia	16,929	
Africa	41,267	
Oceanica, including Australia	41,618	
Total, Old World		114,049
Total in Collections		233,034

Insects

The geographic distribution of our insect collections is shown in Map V, in which it is attempted to place a dot on the approximate location from which the Museum has specimens. Sometimes one dot covers a number of such localities; more often it covers too much country. In general, Map V shows that our insect collections have been assembled not only by such collectors

as Beutenmuller, Lutz, Watson, and Wheeler, but by a host of other collectors, each contributing to the grand total.

Fishes

Our Department of Ichthyology is comparatively young, since it was not until 1903 that Professor Bashford Dean, of Columbia University, was put in charge; consequently our summary of collections does not compare very favorably with collections that have been made in other institutions, such as the United States National Museum, and the Museum of Comparative Zoology at Harvard, which have enjoyed the support of the great ichthyologists of America for more than half a century. The approximate geographic distribution may be summarized in the following figures:

Marine Fishes

Percentage of Total Collection		*Percentage of Total Living Genera*
25 per cent	Atlantic	70 per cent
25 " "	Pacific	60 " "
4 " "	Indian Ocean	50 " "
4 " "	Mediterranean	50 " "
1 " "	Arctic	60 " "
1 " "	Southern Ocean	50 " "

Fresh-water Fishes

9 per cent	North America	80 per cent
9 " "	South America	60 " "
9 " "	Africa	60 " "
6 " "	Asia	50 " "
3 " "	Central America	70 " "
2 " "	Europe	70 " "
2 " "	Australia	60 " "
	World genera	60 " "
100 "		

In the summary of the collection as a whole, we find the following:

Total species represented in the collection	3,000
Total specimens represented in the collection	30,000

Reptiles and Amphibians

In fourteen years our collections have increased nearly 1,000 per cent. The collections now number more than 57,000 adult specimens, in addition to the several thousand eggs and larvæ

which are catalogued by lots. In Map VI we show by stippling the distribution of these collections.

It will be observed that our greatest desiderata are to be found in the Oriental and East Indian region. Our study collection may be ranked among the five largest in the United States. It is a very representative collection, as the following table indicates:

	Number of Valid Genera in British Museum Catalogues	*Number of Genera in Collections of American Museum*
Cæcilians	11	11
Urodeles	26	22
Salientia	107	85
Rhynchocephalians and Chelonians	49	30
Crocodilians	6	5
Lizards	259	165
Snakes	296	167

There are many more genera in the collections than are shown in the above table. These other genera have been described since the British Museum catalogues were issued. When one realizes that there were practically no study collections of reptiles and amphibians in the American Museum prior to 1900, and only 6,000 up to the year 1909, one begins to appreciate the great wealth of material which has recently outgrown our storerooms.

Birds

The distribution of the Museum's bird collections is illustrated on Map VII only in the broadest way. The object has been to show the territory rather than the species of birds covered by the collections. For example, we have practically all known North American species of birds, but instead of covering the continent in darkest shading, it has been found best to give an approximate idea of the source of the respective material. This not only shows the parts of the continent which our collectors have most fully covered, but also the areas in which the least work has been done.

Mammals

The collections in the Department of Mammals are summarized on Map VIII, with the data presented to show the regions whence the specimens have come.

Nearly half of the department collection comes from North America, with the sources covering the United States in the man-

ner set forth and with a very strong representation from the Arctic regions due to the expeditions of Peary, Stefansson, Anderson, Comer, and the Crocker Land Expedition. The principal sources of the North American collection, exclusive of the Arctic regions, are: Prince Maximilian of Wied collection, and specimens collected by Anderson, Anthony, Batty, Chapman, Granger, Mearns, Richardson and Stone.

In South America the collections represent 23 per cent. of the department total and come principally from Colombia, Ecuador, Peru, British Guiana, Brazil, Venezuela, and the Argentine. Most of the mammals were collected by Anthony, Batty, Beebe, Carriker, Keays, Klages, Miller, Richardson, Smith, and Tate. The mammals taken on Colonel Roosevelt's South American Expedition are included in this figure.

Europe is represented by comparatively few specimens—only one per cent. of the total collection in the department.

Asia is represented by 17 per cent. of the total collection, and a large part of this material has been brought in by the series of Asiatic expeditions under Andrews and by the Faunthorpe-Vernay Indian Expedition.

Africa claims 12 per cent. of the total, with the greater part of this percentage made up from the mammals taken on the Lang-Chapin Congo Expedition, the Akeley expeditions and a number of important sportsmen's expeditions made by Rainey, Rainsford, and Tjäder.

The mammals from Australia represent 3 per cent. of the total collection and were practically all secured on the expedition conducted by Gregory and Raven.

Anthropological Collections

The collections as a whole fall naturally under the three traditional divisions of the science of man: anatomy, archæology, and ethnography. See Maps IX, X and XI. In the main, the ethnographic and archæological collections were gathered by museum field parties, and to a large extent this is true of the materials for racial anatomy. Further, all the collections of the Division are handled in two rather distinct series, one for exhibition and one for reference or study. The latter is not mere dead storage material but is so arranged in classified assemblage as to be readily

accessible at all times. Yet, at the same time it is well protected from insects, dust, and other destructive agents. For obvious reasons, the exhibition space is in the main given to ethnographical and archæological collections, which are installed in geographical units. The approximate number of specimens on exhibition and their geographical segregation are as follows:

North America:	
Ethnography of the North Pacific Coast	1,900
Of the Eastern Woodlands	8,477
Of the Western Plains	2,347
Of California and the Southwest	3,687
Of the Eskimo	3,000
Archæology of Mexico and Central America	8,411
Of the United States and Canada	25,000
South American Archæology and Ethnography	15,144
African Ethnography	4,658
Asiatic Ethnography	7,948
Malay and Philippine Ethnography	2,513
Islands of the Pacific Ocean	3,270
European Archæology	4,000
Racial Anatomy	300

This tabulation shows a fair balance between archæological and ethnographical material, but it is also true that the amount of material in storage far exceeds that on exhibition. It is also noticeable that relatively little exhibition space is given to anatomical materials, but in the ethnographic halls are to be found habitat groups in which there are life-sized figures of the several racial types. Finally, the following general summary gives a perspective of our total collections:

	Exhibition	*Study Series*
Ethnography	37,800	284,658
Archæology	52,555	875,063
Anatomy	300	27,000

SUMMARY OF THE MUSEUM COLLECTIONS TO THE END OF 1923

The summary of our collections from various parts of the world at the present time is approximately as follows:

Meteorites		3,229
Minerals and Gems		18,000
Geologic Specimens		17,895
Invertebrate Fossils, Palaeontology		662,042
Vertebrate Fossils, Palaeontology		30,000
Invertebrates		233,034
Insects	(about)	1,000,000
Fishes		30,000
Amphibians and Reptiles		57,500
Birds of the World		250,000
Mammals of the World		50,400
Anthropological Collections		1,250,000

NEARLY EIGHTEEN MILLION DOLLARS ADDED TO THE MUSEUM DURING THE PAST SIXTEEN YEARS

The gifts and appropriations to the Museum during the past sixteen years total nearly $18,000,000. In order to show how expenditures have kept pace with the increasing public service by the Museum and with the increasing cost of operation, attention is called to the following figures:

From the City of New York in Building and Equipment (including the School Service Building to be erected at a cost of $733,800), $3,045,725.54.

Contributions of members of the Board of Trustees, under Special Funds and Gifts, $2,895,241.82.

Gifts of Members and friends other than Trustees, $8,260,476.23.

Appropriations by the City for Maintenance and Operation of the Building and for Educational Work, $3,710,485.94.

Thus, during the past sixteen years, the grand total of additions to Permanent Equipment, to Building, to Exhibition, to Science and Education, Maintenance and to the Endowment of the Museum is $17,911,929.53, an average of more than $1,000,000 a year.

GENERAL ENDOWMENT FUND

The Present Total Endowment of $11,591,617.22 includes a number of generous recent contributions, as follows: Mr. George F. Baker, $250,000; Mr. Edward S. Harkness, $100,000; Mr. John D. Rockefeller, Jr., $1,025,000; Mr. J. P. Morgan, $127,187.50; Mr. George D. Pratt, $50,000; Mr. Arthur Curtiss James, $26,750; Mr. Felix M. Warburg, $19,000. This Endowment is still inadequate to the amount of $3,000,000 to meet the regular educational, exhibitional and operating expenses of the Museum, which have increased 250 per cent. during the sixteen-year period, chiefly owing to doubling and trebling of living costs, wages and salaries in the City of New York, which is now probably the most expensive city in the world.

It is estimated that an endowment of $15,000,000 or an addition of $3,408,382.78 will be needed to operate the Museum and

complete its educational exhibition system when the three new buildings—the *Asiatic Hall,* the *Oceanic Hall,* and the *School Service Building,* now under construction by the City at a total cost of $2,233,800, are completed in 1925.

Highly as the President and Trustees value the popular and financial appreciation of the Museum, they realize that the Museum is very far from being completed at present; that very extensive rearrangement of the collections must be made to bring about an ideal educational arrangement; that we must look forward in 1930, when the main Natural History Museum buildings as at present planned are complete, to a Permanent Endowment Fund of not less than $20,000,000, and so equivalent to that of the present endowment of the New York Public Library, in order to care for future increases in public and popular attendance and in the serious educational and scientific work in the schools, colleges and universities of this country.

MAINTENANCE AND OPERATING EXPENSES OF 1923

For the year 1923, the City Administration, appreciating the service that the Museum is rendering to the public, and especially its relations to the public school system, provided an appropriation of $342,313.36, which has been applied to the care and up-keep of the building and the maintenance of its educational activities. In the same liberal spirit, the City also appropriated $184,950 for necessary repairs, construction and equipment in the existing building, as well as an additional appropriation of $163,800 for the erection of the *School Service Building* now ready for construction. The growth of the institution has been so rapid that, generous as is the appropriation from the City for maintenance, it has been inadequate to meet the increasing cost of operation and school work, and the Trustees have applied $218,303.41 of Trustee funds to these maintenance and education expenses. In order not to curtail important work, the Trustees, at the beginning of the year 1923, guaranteed to raise $40,000 by personal subscription and actually contributed $38,000 for maintenance and operation, which, with various economies effected during the year, enabled the Treasurer to close his books without a deficiency.

The cost of operating the Museum in all its activities, including maintenance, education, exploration, publication, preparation and other scientific work, amounted to $1,085,462.25, the funds for which were derived from the following sources:

GENERAL OPERATING EXPENSES

City Appropriation for Maintenance	$342,313.36
Trustees' General Funds: (Applied to Maintenance and to Scientific Work)	325,154.54
Morris K. Jesup Fund: (Restricted to Scientific Work)	288,906.93
Special Funds: (Contributions for Specific Purposes)	105,803.60
Trustees' Building Fund	1,335.82
Corporate Stock Fund: (Appropriated by the City for Equipment)	21,948.00
Total Expenditures of the Museum for 1923	$1,085,462.25

PROGRESS IN BUILDING AND EQUIPMENT OF SECTIONS 9, 10 AND 11

The most important feature in the building program has been the progress in the erection of the *Southeast Wing* and *Hall of Ocean Life.* It has been a source of keen satisfaction to watch these two halls take final form. These buildings were provided for by an appropriation of $1,500,000, unanimously voted by the Board of Estimate and Apportionment on December 28, 1921. The general contract for the construction was awarded to James Stewart and Company on September 8, 1922, and actual work began officially on October 4, 1922. The excavation, which involved some unexpected problems in establishing the foundations for the building, was completed in December of the same year. During the present year (1923), in spite of inclement weather, strikes and delays in the delivery of material, construction has progressed satisfactorily. In the early fall, both buildings were entirely enclosed and the interior finish well begun. It now seems probable that both buildings will be completed by the middle of 1924.

The construction of these two sections will add six new exhibition halls to the Museum, which are being constructed after plans gradually maturing since the year 1911, when the present arrangement was decided upon, and which promise to be at once the most beautiful and the most impressive exhibition halls in the world. They embody the latest ideas and ideals of Museum construction and are receiving the scientific supervision of leading experts like Honorary Director Frederic A. Lucas; Assistant Director James L. Clark, in charge of Preparation; the noted animal sculptor, Carl E. Akeley; the ichthyologist, Bashford Dean (also on the Metropolitan Museum Staff); Roy C. Andrews, explorer and mammalogist; Roy W. Miner, specialist in invertebrate zoology; the herpetologist, G. Kingsley Noble; and the palæontologists, Henry Fairfield Osborn and William Diller Matthew.

In the *Hall of Ocean Life* will be displayed the whales, porpoises, seals, sea elephants, and other great sea animals, which, through the generous contributions of the late George S. Bowdoin and of Mr. Arthur Curtiss James, have been brought together by years of field work at the whaling stations in British Columbia, Alaska, Japan and Korea, and by expeditions to the Pacific Coast. In the center of the hall will be suspended a life-size model of the humpback whale in the act of diving. This animal is 50 ft. long and has a flipper spread of 40 ft. At the west end of the hall will be an accurate reproduction of a West Indian Coral Reef. This Habitat Group will be 30 ft wide, 12 ft. deep and 25 ft. high, and will be so arranged that the visitor descending from the gallery of the hall to its main floor will pass beneath the surface of the ocean and have an opportunity to view the corals and other marine life at close range.

The *Southeast Wing* will contain on the first floor our collection of fishes, which for several years has been incongruously housed amid our collection of birds of the world. The second floor will be the *Asiatic Hall,* which will be devoted to the splendid new Asiatic collections presented through Colonel J. C. Faunthorpe and Mr. Arthur S. Vernay, as well as the rich collections of the Third Asiatic Expedition, which will include the antelope, wild ass and other animals of the Mongolian Plains.

The *Hall of Amphibians and Reptiles* will occupy the third

TABLE I. KEY TO ARRANGEMENT OF EXHIBITION HALLS BY BUILDING SECTIONS

Names of Building Sections	*First Floor*	*Second Floor*	*Third Floor*	*Fourth Floor*
1. MEMORIAL	Jesup Memorial	World Bird Groups	Primates	Age of Man (History of the Earth V)
2. SOUTH AMERICAN*	Indians of Eastern North America	African Life	Siberia	Minerals and Gems (Morgan Hall)
3. POLYNESIAN	Indians of the Plains	Prehistory of South America	China and Japan	Races of Man
4. EUROPEAN	Indians of the Southwest	Ancient Peru	Peoples of Malaysia	Evolution of Human Culture
5. CENTRAL AMERICAN*	Aztec and Maya	Central American Culture	Pacific Island Peoples	History of Inventions
6. AUSTRALIAN	California and Plateau Indians	South American Tribes	Life of Australia	Study Hall (Crafts and Textiles)
7. ASTRONOMIC*	Meteorite Hall	Cosmic Geography	Gallery	The Firmament
8. BICKMORE	Northwest Coast Indians	Birds of the World (Elliot Hall)	North American Bird Groups	History of the Earth I
9. EDUCATION	Nature and Man			
10. NORTH AMERICAN	Trees of North America	North American Mammals (Allen Hall)	Mammals of the World (Buffon Hall)	Age of Mammals (Osborn Hall)
11. ARCTIC AND ANTARCTIC	Darwin Hall of Evolution	Polar Life	Insect Life	Closing Age of Dinosaurs (History of the Earth IV)
12. ASIATIC	Fishes of the World	Mammals of Asia	Reptiles of the World	Early Age of Reptiles (History of the Earth III)
13. OCEANIC	Mollusks			
14. ROOSEVELT*	Association Headquarters	Roosevelt Memorial	Roosevelt Memorial	Gallery
15. AFRICAN	Geography of Africa	Mammals of Africa	African Natural History	History of the Earth II
16. NEW LECTURE AMPHITHEATER*				

* THE SIXTEEN BUILDING SECTIONS, as shown in the map entitled "General Building Plan of The American Museum of Natural History, 1923," printed in the Fifty-fourth Annual Report.

There will be sixteen building sections in The American Museum of Natural History, of which eleven have been completed or are under construction, and five are being planned for future construction. These five are indicated by asterisks in Table I.

TABLE II—EXHIBITION HALLS (*Continued*)

Names of Exhibition Halls	*Names of Building Sections*	*Floor*
JESUP MEMORIAL	Memorial	I
WEST ASSEMBLY	West Corridor	I
INDIANS OF EASTERN NORTH AMERICA	South American	I
INDIANS OF THE PLAINS	Polynesian	I
INDIANS OF THE SOUTHWEST	European	I
AZTEC AND MAYA	Central American	I
CALIFORNIA AND PLATEAU INDIANS	Australian	I
NORTHWEST COAST INDIANS	Bickmore	I
NATURE AND MAN	Education	I
METEORITES	Astronomic	I
EAST ASSEMBLY	East Corridor	I
TREES OF NORTH AMERICA	North American	I
DARWIN HALL OF EVOLUTION	Arctic and Antarctic	I
FISHES OF THE WORLD	Asiatic	I
MOLLUSKS	Oceanic	I
OCEAN LIFE	Oceanic	(Ground floor)
ROOSEVELT MEMORIAL OFFICES	Roosevelt	I
GEOGRAPHY OF AFRICA	African	I
WORLD BIRD GROUPS	Memorial	II
BIRDS OF NEW YORK	West Corridor	II
BIRDS OF THE WORLD (Elliot Hall)	Bickmore	II
COSMIC GEOGRAPHY	Astronomic	II
AFRICAN LIFE (Human)	South American	II
PREHISTORY OF SOUTH AMERICA	Polynesian	II
ANCIENT PERU	European	II
CENTRAL AMERICAN CULTURE	Central American	II
SOUTH AMERICAN TRIBES	Australian	II
TRUSTEES' ROOM	East Corridor	II
NORTH AMERICAN MAMMALS (Allen Hall)	North American	II
POLAR LIFE	Arctic and Antarctic	II
MAMMALS OF ASIA	Asiatic	II
ROOSEVELT MEMORIAL	Roosevelt	II
MAMMALS OF AFRICA	African	II
PRIMATES	Memorial	III
DOMESTIC ANIMALS	West Corridor	III
NORTH AMERICAN BIRD GROUPS	Bickmore	III
SIBERIA (Ethnographic)	South American	III
CHINA AND JAPAN	Polynesian	III
PEOPLES OF MALAYSIA	European	III
PACIFIC ISLAND PEOPLES	Central American	III
LIFE OF AUSTRALIA	Australian	III
COSMIC GEOGRAPHY (Gallery)	Astronomic	III
MEMBERS' ROOM	East Corridor	III
MAMMALS OF THE WORLD (Buffon Hall)	North American	III
INSECT LIFE	Arctic and Antarctic	III
REPTILES OF THE WORLD	Asiatic	III
ROOSEVELT MEMORIAL	Roosevelt	III
AFRICAN NATURAL HISTORY	African	III
AGE OF MAN (History of the Earth V)	Memorial	IV
THE HORSE	West Corridor	IV
MINERALS AND GEMS (Morgan Hall)	South American	IV
RACES OF MAN	Polynesian	IV
EVOLUTION OF HUMAN CULTURE	European	IV
HISTORY OF INVENTIONS	Central American	IV
STUDY HALL (Crafts and Textiles)	Australian	IV
THE FIRMAMENT	Astronomic	IV
HISTORY OF THE EARTH I	Bickmore	IV
AGE OF MAMMALS (Osborn Hall)	North American	IV
AGE OF DINOSAURS (History of the Earth IV)	Arctic and Antarctic	IV
EARLY AGE OF REPTILES (History of the Earth III)	Asiatic	IV
HISTORY OF THE EARTH II	African	IV
KEY TO PALÆONTOLOGY	East Corridor	IV

In each section, the exhibition floors are indicated by Roman numerals I-IV. The total number of exhibition, assembly and lecture halls is sixty-two, as shown in Table II.

floor, while in the fourth floor hall will be installed the giant aquatic dinosaurs and other ancient fossil reptiles.

The next building project is the *School Service Building,* for which the Board of Estimate and Apportionment appropriated $570,000 on April 21, 1922. Since that time the plans for this building have received most careful study by the architects and staff members, until now we believe we have planned the best designed building possible for extending the usefulness of the Museum to the entire school system. The increasing cost of all building operations, due to labor conditions and higher prices for materials, combined with the somewhat specialized character of this building, made it necessary to apply to the Board of Estimate and Apportionment for an additional appropriation of $163,800 for the erection of this building. This supplementary appropriation was voted by the Board on June 29, 1923, thus making the total amount available for the *School Service Building* $733,800. In the meantime, the plans and specifications have been completed and have been forwarded to the Board of Estimate and Apportionment for final approval.

The *School Service Building* will occupy the southwest court and will be devoted to the relations of the Museum to the schools. It will be a five-story structure, 160 ft. long by 90 ft. wide on the ground floor, and 56 ft. wide on the upper floors. The first or main floor will be a huge exhibition hall, which is especially needed for the many temporary exhibitions held annually at the Museum, such as the flower shows of the New York Horticultural Society and various anniversary exhibitions. We also expect that from time to time displays of the handiwork of school children, especially in the art and design classes, will be shown in this hall. The principal function of the building, however, is to provide classrooms for visiting classes of children, laboratories and offices for the educational staff and proper facilities for the care and distribution of our Nature Study Collections and our large series of lantern slides, which are made available for the schools of the city. We regard the liberal action of the Board of Estimate and Apportionment, in providing for the erection of this building, as indicating its appreciation of the Museum's service to the schools, and we greatly appreciate this recognition of the Museum's contribution to education.

SCHOOL SERVICE AND ATTENDANCE DURING SIXTEEN YEARS

The corresponding growth of public interest in the Museum during the sixteen-year period is shown by the increase in attendance from 537,984 in 1907 to 1,431,722 in 1923, an increase of more than 166 per cent. The school service attendance in the Museum, included in the above figures, increased from 30,000 in 1907 to 134,669 in 1923, while the total number reached by the Museum's extension service to the schools has increased from 778,510 in 1907 to 5,630,811 in 1923, a gain of 623 per cent. The Annual Membership income has risen from $15,300 in 1907 to $38,395 in 1923.

INCREASE IN MUSEUM COLLECTIONS DURING 1923

The year 1923 has been exceptional in the rapid increase of collections from all parts of the world. Either an emergency gift of $300,000 for preparation and exhibition, or the annual interest on a new endowment fund of $3,000,000, is needed to keep up with this astonishing growth through the Museum's expeditions and through the liberality of the City in the erection of new buildings.

First in importance, during the year 1923, is the Faunthorpe-Vernay Collection from India, including gifts by the Viceroy of India and the Maharajas of Nepal and Mysore—a superb collection of mammals and birds valued at not less than $100,000. The Museum is also indebted to Mrs. Henry Clay Frick for the gift of a unique collection of fossils from the Siwalik Hills of India and from Burma, of a total value of $15,000. Mr. Childs Frick contributed during the year $14,800, making his total contribution $53,250 toward collections, chiefly of Pliocene age, from California and other Western States. Mr. Harry Payne Whitney has continued for the third year his annual gift of $20,000 to secure a representative collection of the birds of the Oceanic Islands of Polynesia. An indirect gift for the support of the Martin Johnson Second African Expedition by the Martin Johnson African Expedition Corporation, for five years, involves an annual expenditure of $20,000.

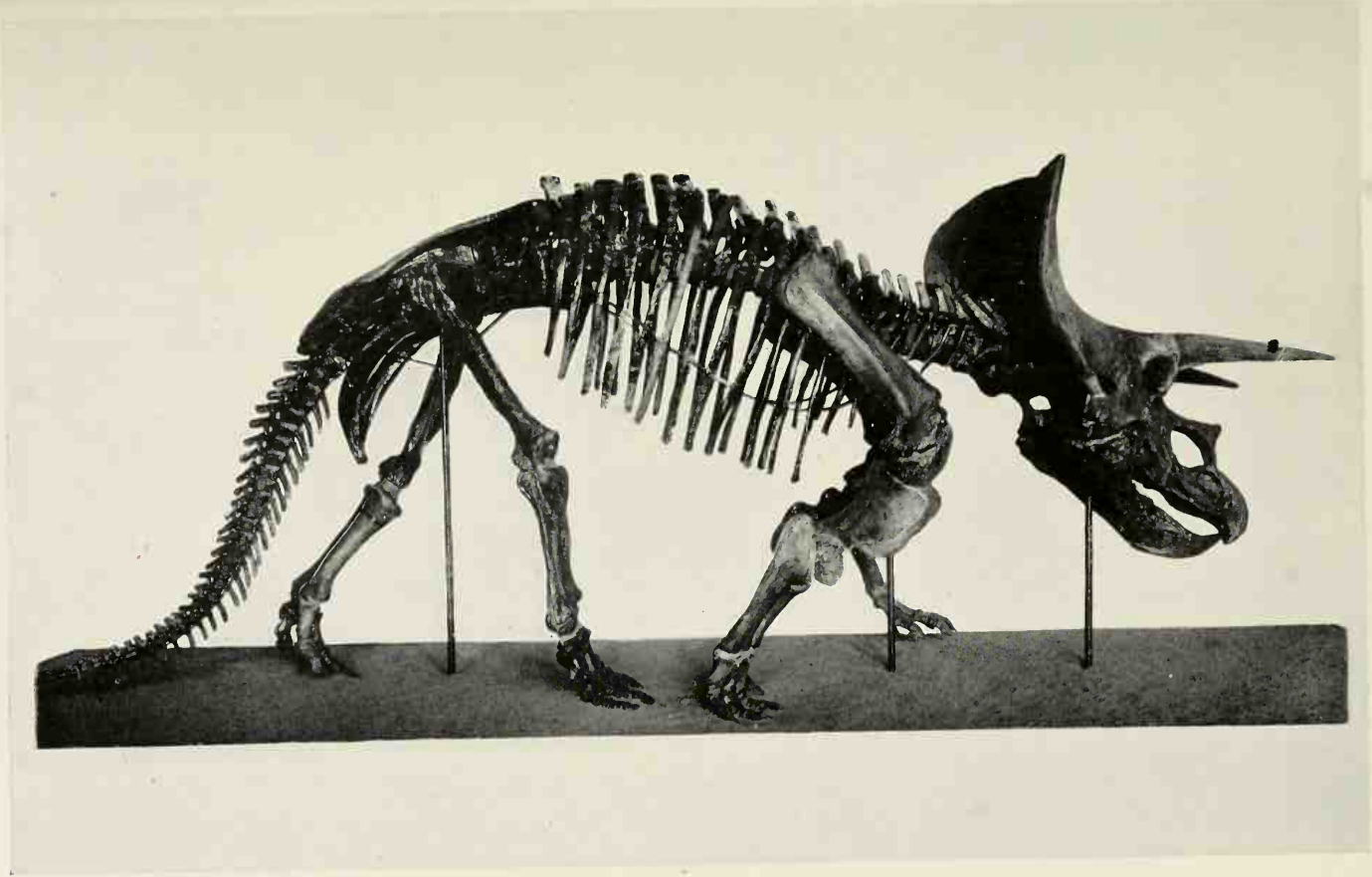
THIRD ASIATIC EXPEDITION

The Third Asiatic Expedition has been the most successful expedition in the whole history of the Museum. The collections and scientific results achieved during the first three years in China and Mongolia, under the direction of Roy Chapman Andrews, have far surpassed our fondest expectations. Our indebtedness to Messrs. Andrews, Granger, Berkey, Morris and Pope cannot be expressed. On invitation of Mr. Andrews, President Osborn traveled to China and Mongolia in the autumn of 1923 to inspect the personnel and management, and to visit some of the most important deposits in east-central Mongolia. On returning to the Museum headquarters in Peking, he agreed with the leader that the work in Mongolia was so profoundly important that it would require an additional five years and that the staff should be enlarged to include topography, palæo-botany, and archæology.

The expedition has aroused world-wide interest. In addition to the series of special articles in ASIA Magazine, which has strongly supported the expedition financially, a series of articles is appearing in *Natural History,* concluding with a report by the leader, entitled "The Coming Five Years, 1924-28, of the Third Asiatic Expedition." Nineteen preliminary scientific papers have appeared in Museum publications. A series of twelve volumes, to be entitled *Mongolia and China,* is projected and will include the complete scientific results of the expedition.

The great collections of fossils have been safely transported from central and western Mongolia and are now being given the place of honor in the center of the Hall of the Age of Mammals.

The President can hardly find language to express his appreciation to the scientific workers of this expedition and to the liberal contributors from twenty-five States of the Union, including the American Asiatic Association. During the three years the contributions toward the cost of the expedition have amounted to $360,000. A full list of contributors appears in the March-April, 1924, number of *Natural History,* at the close of Mr. Andrews's article, "The Coming Five Years."



DEPARTMENT OF VERTEBRATE PALAEONTOLOGY

HORNED DINOSAUR TRICERATOPS

This animal was a contemporary of the great Tyrannosaurus near the end of the Age of Reptiles

MEMBERSHIP AND ACKNOWLEDGMENTS

Report of the Secretary

Board of Trustees

At the Annual Meeting of the Board of Trustees, February 5, 1923, Mr. Cleveland Earl Dodge was elected to the Class of 1926, to fill the vacancy due to the resignation of Mr. Charles Lanier. There were elected to the Class of 1927 the Trustees whose terms expired at the Annual Meeting, namely, Mr. Adrian Iselin, Mr. Ogden Mills, and Mr. Madison Grant. Mr. Frederick Trubee Davison was elected to the Class of 1927 to fill the vacancy due to the death of Mr. Henry P. Davison. Mr. Arthur Curtiss James resigned from the Board of Trustees, December 19, 1923.

The changes in the Scientific Staff were as follows:

Scientific Staff

N. C. Nelson, M. L., was promoted from Associate Curator of North American Archaeology to Associate Curator of Archaeology.

James P. Chapin, Ph.D., was promoted from Assistant Curator of African Birds to Associate Curator in Charge of Birds of the Eastern Hemisphere.

Mr. Herbert Lang was promoted from Assistant Curator of African Mammals to Associate Curator of African Mammals.

Professor Frederick K. Morris, A. M., was appointed Associate Curator of Geology and Geography.

Mr. S. H. Chubb was promoted from Assistant in Osteology to Assistant Curator of Comparative Anatomy.

Professor Charles P. Berkey, Ph.D., was appointed Research Associate in Geology.

Childs Frick, B. S., was appointed Research Associate in Palaeontology.

Milo Hellman, D.D.S., was appointed Research Associate in Physical Anthropology.

Miss A. Katherine Berger was appointed Assistant Editor of *Natural History.*

Ruth Crosby Noble, B.A., resigned from the position of Assistant Curator in the Department of Public Education, but arrangements have been made to retain her services for certain special work.

Arthur I. Ortenburger, M.S., resigned from the position of Assistant Curator of Herpetology, to become Assistant Professor of Zoology at the University of Oklahoma.

At the Annual Meeting, February 5, the first elections to Corresponding Membership were made.

Activities of the Staff

The Roosevelt Memorial Association awarded the Roosevelt gold medal of honor to President Henry Fairfield Osborn, for the promotion of the study of natural history.. This was one of its first three medals of honor. The President received the degree of Sc.D. from Yale University on June 20. He was elected the first Honorary Member of the Geological Society of China, at Peking.

Director Frederic A. Lucas represented the American Museum and also the Museums Association (Great Britain), at the meeting of the American Association of Museums at Charleston, South Carolina, in April.

Mr. George H. Sherwood was the official representative of the American Museum at the Annual Meeting of the Museums Association (Great Britain) held at Hull, England, July 9 to 13. Mr. Sherwood was appointed on the Committee on Finance and Accounting of the American Association of Museums.

Dr. Edmund Otis Hovey represented the Museum at the Charleston, South Carolina, meeting of the American Association of Museums in April. He represented the Museum, the Geological Society of America and the New York Academy of Sciences at the Second Pan Pacific Science Congress in Melbourne and Sydney, Australia, in August and September; he served as Chairman of the Geology Section on the last day of the Sydney sessions of the Congress. He was a representative of the Museum at the Joseph Leidy Centenary of the Academy of Natural Sciences of Philadelphia in December, and attended the Annual Meeting of the Geological Society of America, in Washington, in December, of which Society he is a member of the Council. Dr. Hovey also served as a Vice-President of the Explorers Club during the year.

Dr. Lutz was a representative of the Museum at the meeting of the American Association of Museums at Charleston. The A. Cressy Morrison prize of the New York Academy of Sciences was awarded to Dr. Lutz for his paper entitled "Apparently Non-Selective Characters and Combinations of Characters, including

a Study of the Ultraviolet in Relation to the Flower-visiting Habits of Insects."

Dr. Frank M. Chapman was reëlected President of the John Burroughs Memorial Association, and as a member of the Board of Directors of the National Association of Audubon Societies, and of the Explorers Club.

Mr. H. E. Anthony and Mr. Herbert Lang attended the Annual Meeting of the American Society of Mammalogists in Philadelphia, in May; they also represented the Museum at the Annual Convention of the American Game Protective Association.

Dr. Clark Wissler represented the Museum at the conference on Indian Affairs called by Secretary Work. Dr. Wissler is a Vice-President of the New York Academy of Sciences.

Dr. William K. Gregory served as Secretary of the Galton Society for the Study of the Origin and Evolution of Man, and as a Vice-President of the New York Academy of Sciences. He was elected a member of the International Association for Dental Research; of the David Black Society of the University of California, and was reëlected to the Advisory Council of the Eugenics Committee of the United States.

Dr. G. Clyde Fisher is a member of the Board of Managers of the Long Island Biological Association, which has taken over the control of the Biological Laboratory of the Brooklyn Institute of Arts and Sciences at Cold Spring Harbor. He is Chairman of the Viewing Committee of the National Education Association, which will coöperate with the Motion Picture Producers and Distributors of America, Inc. Dr. Fisher served on the Curriculum Committee of the Visual Instruction Association of New York, and on the Biology Committee of the Bureau of Lectures and Visual Aids to Instruction of the Board of Education. He is Examiner for the Boy Scouts of Manhattan, for the Bird Study Merit Badge. He represented the Museum at the Annual Convention of the New York State Federation of Workers for the Blind, held in New York City in October.

Dr. Chester A. Reeds attended the Annual Meeting of the Geological Society of America, in Washington.

Dr. G. Kingsley Noble attended the meeting of the American Society of Ichthyologists and Herpetologists in Cambridge, Massachusetts, and the Thirty-ninth Session of the American Association of Anatomists at the University of Chicago, in March.

Mr. John T. Nichols was elected President of the American Society of Ichthyologists and Herpetologists at Cambridge, Massachusetts, in October.

Dr. Robert Cushman Murphy was reëlected a member of the Board of Directors of the National Association of Audubon Societies and of the Explorers Club.

Dr. James P. Chapin was elected a Corresponding Member of the German Ornithological Society.

Dr. Jonathan Dwight was elected President of the American Ornithologists' Union, in Cambridge, in October.

Mr. Nels C. Nelson was Treasurer of the American Ethnological Society.

Dr. Louis R. Sullivan represented the Museum at the inauguration of Dr. Cloyd H. Marvin as President of the University of Arizona.

Hospitality to Societies

The Museum extended the privileges of its auditorium and meeting rooms to educational and scientific organizations. The following societies held meetings, exhibits or lectures at the Museum in 1923:

American Ethnological Society
American Scenic and Historic Preservation Society
Aquarium Society
Association of Directors of Girls' Camps, New York Section
Board of Education, City of New York (Public Lecture Service)
Boy Scouts of America
Camera Club of New York
City Gardens Club of New York
City History Club of New York
Columbia University (Classes)
Daughters of Sacajawea, Man-hat-ta Council, American Indian Tipi Order, Incorporated
Federation for Child Study
Galton Society for the Study of the Origin and Evolution of Man
Girl Scouts, Incorporated
Horticultural Society of New York
John Burroughs Memorial Association
Keramic Society of Greater New York
Linnaean Society of New York

National Association of Audubon Societies
National Plant, Flower and Fruit Guild
National Research Council
New York Academy of Sciences
New York Bird and Tree Club
New York City Federation of Women's Clubs
New York Entomological Society
New York Microscopical Society
New York Mineralogical Club
New York Tuberculosis Association, Incorporated
New York United States Department of Agriculture Club
New York Zoological Society
School Garden Association of New York
School Nature League
Torrey Botanical Club
Visual Instruction Association of America
Visual Instruction Association of New York

Special Gifts

On pages 144 to 165 are acknowledged the many gifts to the Museum from friends in 1923, but we mention here some of special interest and value: From B. S. Bowdish, 316 bird skins from Porto Rico; from W. Douglas Burden, 25 specimens of mammals, from Indo-China; Samuel E. Cassino, about 2,600 Lepidoptera; Mrs. E. L. Dickerson, collection of insects; C. Raymond Frey, 7 diamond crystals from British Guiana; Imperial University of Tokio, collection of Japanese fishes; Mr. and Mrs. Martin Johnson, 7 reels motion picture film of African wild animals; Martin Johnson, 51 bird skins, 2 mole skins, photograph of Grant's Zebra at waterhole, elephant skull and jaw, 2 rhino skulls and jaws, and 2 zebra skulls (one with jaws), from East Africa; Dr. George F. Kunz, 1 Kunzite, 59.19 carats, 1 Kunzite, 14.80 carats; Professor Maynard M. Metcalf, 164 microscopic slides of Protozoa, including 107 paratypes; J. P. Morgan, 39 gems; John M. Muir, collection of pottery idols and heads from Panuco, Mexico; Musée Royal d'Histoire Naturelle de Belgique, Brussels, collection of flint implements from Belgium, representing the entire palaeolithic and neolithic systems of Professor A. Rutot; Frank J. Myers, 53 slides of mounted and named rotifers, including 30 types, 14 slides of mounted and named Cladocera (14 species); Mrs. Walter

Wehle Naumburg, 97 bird skins (61 from South America, and 36 from Baden, Germany); New York Zoological Society, a large number of specimens, including mammals, birds, amphibians, reptiles and fishes; Claude Nolan, whale shark from Long Key, Florida; Mrs. Henry Fairfield Osborn, 2 carnelian scarabs, one set in ring, 1 onyz cameo, 1 sardonyx cameo, 2 shell cameo brooches, 1 pearl attached to shell of pearl oyster, Japan; George D. Pratt, 5 reels motion picture film of Alaska; J. G. Ramsay, 2 wolf skins, 1 ant-eater, 1 armadillo, 1 maned wolf, from Brazil; Dr. L. C. Sanford, 103 bird skins.

Objects of art appropriate to our Museum were received as follows: From Miss Emily Somers Haines, portrait of William A. Haines, by Butler; Arthur Curtiss James, 2 paintings of undersea scenes by Zarh H. Pritchard, "Coral Garden in the Lagoon, Maraa, Tahiti"; John Burling Lawrence, oil painting of Coyotes, by Audubon, enlargement of photograph of Audubon, framed, crayon portrait of the late Daniel Giraud Elliot by Akins; President Henry Fairfield Osborn and Mrs. Osborn, Percy R. Pyne, Dr. Walter B. James, and Mrs. Edward H. Harriman (through Mrs. Osborn), bust of Pasteur by P. Dubois; Consul General F. Roel, Mexican Consulate, New York City, 4 photographs of bronze statue of Guantemoctzin presented by Mexico to Brazil; Mrs. John Wood Stewart (in memory of Mr. John Wood Stewart), painting of undersea scene by Zarh H. Pritchard, "Coral Garden"; Mrs. W. K. Vanderbilt, undersea painting by Zarh H. Pritchard, "Coral Pinnacles in the Lagoon of Maraa, Tahiti"; Paul M. Warburg and Miss Bettina Warburg, painting of undersea landscape by Zarh H. Pritchard, "Coral Garden, Maraa, Tahiti." The Library has been enriched by rare volumes presented by Mr. Ogden Mills and Mr. James B. Ford.

Acknowledgments

The Trustees wish to express their appreciation of the many courtesies extended during the year to members of the Museum's expeditions in various parts of the world, by government officials, co-workers in science and citizens. During Doctor Hovey's stay in Australia, as the Museum's delegate to the Pan Pacific Science Congress, he was the recipient of many courtesies for which grateful acknowledgment is made. We would mention especially favors received at the hands of the Government of the Commonwealth and those of

the States of New South Wales, Victoria and Queensland, and we are indebted to the following, among many others, for courtesies extended or assistance rendered: The Australian National Research Council, Sir T. Edgeworth David, Mr. R. H. Cambage, Professor L. E. Cotton, Dr. E. C. Andrews, Mr. Charles Hedley, Professor E. W. Skeats, Professor H. C. Richards, Sir Douglas Mawson and the mining companies at Broken Hill, New South Wales, and Mt. Lyell, Tasmania. In New Zealand material assistance was given by the Dominion Government and Professors R. Speight and P. Marshall.

The United States Geological Survey gave special assistance in the preparation of the model of Yosemite Valley, California, through freedom to use an unpublished geological map of the region by Dr. F. C. Calkins and through Dr. Francois E. Matthes's unrivaled knowledge of the topography and glaciology of the area. The Survey also generously gave us the text and illustrations of "The Story of the Yosemite," by Dr. Matthes, for use in a guide leaflet descriptive of the model.

Dr. Ulric Dahlgren, Director of the Mount Desert Biological Laboratory, Mount Desert Island, Maine, placed every facility of the Laboratory at the disposal of Dr. Miner while engaged in studying the fauna of the bottom of Frenchman's Bay.

Through the cordial coöperation of Mr. C. F. Forsyth and his nephew, Mr. E. W. Forsyth, the Commissioner of Southern Andros, Dr. Miner was enabled to visit the Andros Islands to examine the coral reefs.

The special assistance of Mr. J. E. Williamson, Nassau, Bahamas, inventor of the undersea tube, is also gratefully acknowledged.

We are indebted to Mr. Frank J. Myers, Research Associate, for assistance to Dr. Miner at Mount Desert Island, Maine, and in New Jersey.

The Cooper Hewitt Electric Company, Hoboken, New Jersey, lent scientific apparatus to Dr. Lutz for his studies on insects in relation to color.

Mr. Howard Notman kindly assisted in the scientific work on beetles. Mr. Herbert F. Schwarz assisted in the work on bees, and Mr. Chris E. Olsen and Mr. H. G. Barber in the work on Hemiptera.

Mr. L. L. Mowbray, being in Florida at the time of the capture of a 32-foot Whale Shark, conferred with Mr. Claude Nolan of Jacksonville, and secured the generous gift of this specimen to the Museum from Mr. Nolan. Mr. Mowbray's sketch, measurements and description of the shark make possible the construction of a life-size model for the Hall of Fishes. Mr. Travers, of Currie and Company, Key West, and Lieutenant Brown, of the Coast Guard Service, lent much valuable assistance in handling this unwieldy monster.

The Museum's Third Asiatic Expedition received many courtesies, which are greatly appreciated. We wish especially to mention the following:

Mr. Dixon, of the Mackenzie Company; Captain Simpson, of the U. S. S. "Palos"; Captain Nielson, of the "Monecacy," and Mr. S. Bayard Colgate were of much assistance. The Standard Oil Company of Shanghai presented the Expedition with all the gasoline, oil, etc., for the summer of 1923. Colonel H. Dunlap, Commander of the American Guard, detailed his motor men for transport work. The Chinese Consul General in New York has been of friendly assistance to the expedition in the matter of shipping the collections. Mr. C. Badmajapoff, Mongolian Minister of Justice, obtained permission for the Expedition to work in Mongolia. Mr. Franz A. Larsen was of great assistance in carrying on diplomatic negotiations with the Mongol Government and in many other ways.

The Honorable Dr. Don Rafael H. Elizalde, E.E., M.P., Legation of Ecuador, Washington, D. C.; Mr. Archer Harman, President Guayaquil and Quito Railway Co.; Mr. E. Hope Norton, New York; Mr. W. R. Pfizer, Assistant to the Vice-President, Panama Railroad Co., New York, were of assistance to Mr. Anthony in connection with our Ecuadorian expedition. Mr. Ludovic Söderstrom, who has many times been the host for Museum workers in Ecuador, kindly placed his quarters at the disposition of Mr. Anthony and Mr. Tate for the establishment of a base in Quito. We are also indebted to Sr. Jacinto Jijon y Caamaño, of Quito; Mr. A. M. Tweedy and Mr. M. G. Powell, of the South American Development Co., at Guayaquil.

His Excellency Governor Sir W. Collet, through the Colonial Secretary, the Honorable Hampton King, at the Departments of Science and Agriculture, Messrs. W. Francis, L. D. Cleare, Mr.

James Rodway; and Mr. William Beebe, Director of the Tropical Research Station of the New York Zoological Society at Kartabo, British Guiana, extended courtesies to Mr. Herbert Lang during his trip to that region.

The helpful assistance of the British Government officials, the Maharaja of Nepal, and several Indian princes opened the way for the securing by the Faunthorpe-Vernay Indian Expedition of specimens otherwise unobtainable. Special thanks are due to His Excellency the Earl of Reading, G.C.B., etc., Viceroy of India; the Maharaja of Nepal; General H. H. Maharaja, Sir Chandra Shumshere Jung Bahadur Rana, G.C.B., G.C.S.I., G.C.M.G., G.C.V.O., D.C.L., Prime Minister and Marshal of Nepal; Sir Harcourt Butler, G.C.I.E., Governor of Burma, Rangoon; His Excellency Sir William Marris, K.C.S.I., etc., Governor U. P., Lucknow; H. H. the Maharaja of Mysore; H. H. Nawab Sultan Jahan Begum, G.C.S.I., G.C.I.E., C. I., Ruler of Bhopal; Rani Surat Koer, O.B.E., Singahi, Kheri, Oudh; Kunwar Dillipat Shah of Khairigarh, Singahi, Kheri, Oudh; the Honorable W. P. Barton, C.S.I., C.I.E., I.C.S., Bangalore; Captain H. J. L. Fremlin, Attikan P.O., Mysore; P. Hopwood, Esq., M.C., Conservator of Forests, Tenasserin Division, Rangoon, Burma; Mirza M. Ismail, O.B.E., Private Secretary to H. H. the Maharaja of Mysore; Khan-Bahadur, Sir M. Israr Hasan Khan, KT., C.I.E., Home Member, Bhopal; A. P. Kinloch, Esq., Kollengode P.O., Malabra; Ralph C. Morris, Esq., Honnametti, Attikan P.O., Mysore; Colonel Sir Nawab Oligah Nasrullah, Khan Bahadur, K.C.S.I., etc., Heir Apparent of Bhopal; Sir Malcolm Seton, India Office; Sir William Duke, India Office; J. H. W. Troughton, Esq., I.C.S., Taungdwingye, Burma; J. E. C. Turner, Esq., Deputy Conservator of Forests, North Kheri Division, Kheri, Oudh.

Mr. Robert Tomlinson, Kispiox, British Columbia, assisted Dr. Goddard in obtaining a totem pole from the Tsimshian Indians.

Mr. Albert Covington Janin, a Trustee of the Mammoth Cave Estate, extended courtesies to Mr. Nelson during his visit to Mammoth Cave, Kentucky. Mr. Nelson was the guest of the Mammoth Cave Estate during his examination of the caves in Kentucky.

Mr. B. F. Pankey, Lamy, New Mexico, the owner of the site of the San Cristobal ruin, near Lamy, gave permission to excavate the burial mounds of the ruins. He allowed Mr. Nelson and Dr. Sullivan the use of his home ranch house for living quarters and placed at their disposal several of his storehouses; his foreman and ranchmen assisted in various ways.

Mr. W. J. Cooper, Superintendent of Schools, Fresno, California; Mr. F. H. Sutton, Principal Technical High School, and Mr. I. W. Cappleman, Principal Kirk School, cooperated with Dr. Sullivan during his studies of racial types among the school children of Fresno.

Professor F. C. Paschal, University of Arizona, Tucson, cooperated with Dr. Sullivan in a psychological and anthropological analysis of Mexican school children in Tucson.

Professor Eugen Dubois offered hospitality and courtesies to Dr. J. H. McGregor during Professor McGregor's studies abroad.

Through cooperation of the Southwest Society and Dr. Elsie Clews Parsons, Mr. Owen Cattell was sent to Zuni late in November and secured a motion picture record of Shalako, the most important Zuni ceremony.

Through the liberal policy and active cooperation of government officials and the directors of several Australian museums, Mr. Raven was able to secure collecting permits in Queensland, New South Wales and Tasmania. The Museum is especially indebted to Dr. Thomas Storey Dixson, President; Dr. Charles Anderson, Director; Dr. Charles Hedley, and the entire staff of the Australian Museum at Sydney; Professor Launcelot Harrison, Sydney University; Dr. A. H. Burckitt, School of Medicine, Sydney University; Mr. A. H. Chisholm, *Sydney Daily Telegraph;* Mr. Ellis S. Joseph, Sydney; Mr. Harry Burrell, Sydney; Mr. A. S. Le Souëf, Taronga Zoological Park; Mr. Heber Longman, Director, and Mr. M. J. Colclough, of the Queensland Museum; Mr. William Gray, North Queensland; Professor F. Wood Jones, University of Adelaide; Mr. H. H. Scott, Curator of the Victoria Museum and Art Gallery, Launceston, Tasmania; Dr. Ray McClinton, Launceston; Professor T. T. Flynn and Colonel Thomas, University of Tasmania; and Mr. E. Burles, Manager of the Arthur River Sawmill, Tasmania.

Through the generosity of Mr. Harrison Williams, and of Mr. William Beebe, of the New York Zoological Society, a habitat group of *Amblyrhynchus* was made possible.

General Membership

Every State in the Union and forty foreign countries were represented in the membership of The American Museum of Natural History in 1923. During the year, 1,075 new Members were enrolled, and on December 31 the total membership was 7,273, the largest number in our history.

Membership Privileges

Members receive *Natural History,* a popular illustrated bimonthly journal published by the Museum. The magazine is devoted to the advancement of natural science, the recording of scientific research, exploration and discovery, and the development of museum exhibition and museum influence in education.

Members are invited to use the Members' Room on the third floor, where they may read, rest or write letters during their visits to the Museum. Through request to the attendant in this room, an instructor will meet Members and conduct them to the most interesting exhibits.

Special lectures are given every year for Members, and there are a number of public lectures, to which Members are welcome.

The American Museum is reciprocating with the following organizations in the exchange of membership privileges:

Reciprocal Membership Privileges

The Buffalo Society of Natural Sciences
The State Historical and Natural History Society of Colorado, Denver
The Newark Museum Association
The Washington State Historical Society, Tacoma
The Toledo Museum of Art
The Saint Paul Institute, Saint Paul, Minnesota
The Charleston Museum, Charleston, S. C.
The Academy of Natural Sciences of Philadelphia
The American Association of Museums

When a Member of our Museum presents his membership card at the office of the museum of any of the above societies, the privileges accorded the members of these societies will be accorded the

Member of the American Museum, and vice versa. This plan, with which we are heartily in sympathy, was suggested by the Buffalo Society of Natural Sciences, to promote the friendly relations already existing between these societies, to encourage and stimulate the interest of members, and to increase scientific knowledge.

Some of the lectures and meetings in 1923, to which Members were invited were:

Lectures for Members

Spring Course: "Big Game Animals of New Brunswick," by Donald R. Dickey; "Days and Nights on Dominican Trails," G. Kingsley Noble; "My Six Years in the Jungle of the Malay Peninsula," Carveth Wells; "The Songs of Our Birds," Charles Crawford Gorst.

Autumn Course: "The Birth of the Earth," Harlow Shapley; "The Yellowstone National Park," Carlos E. Cummings; "Galapagos: World's End," William Beebe; "Exploring in Polynesia," Robert Cushman Murphy.

Lectures for Children of Members

Spring Course: "Wild Life from Tide-Line to Mountain-Top," William L. Finley; "Insect Stories," Oliver P. Medsger; "An Indian Morning," Chinquilla and Os-ke-non-ton; "Pollywog Tales," Ruth Crosby Noble.

Autumn Course: "An Hour with Peter Rabbit and His Friends," Thornton W. Burgess; "Dream Pictures" (Musical Interpretations of Nature's Moods), Branson De Cou; "Training Wild Animals in Africa," Carl E. Akeley; "Wild Animal Friends of Mine," Ernest Harold Baynes.

Special Lectures

The Museum co-operated with the American Scenic and Historic Preservation Society in giving a popular illustrated lecture, January 5, on "Beautiful Africa," by Carl E. Akeley.

The New York Academy of Sciences gave, January 15, in the Museum auditorium, a popular illustrated lecture, "Our Granular Universe—Some Modern Views on How the Atom is Built," by John Mills, and on March 19, "Chemistry Within the Atom," by Dr. E. D. Crittenden.

The Visual Instruction Association of America gave, February 1, a lecture by M. P. Adams, in our auditorium, "Australia and Its Wild Nor' West," film and lecture by courtesy of Ascher Productions, Inc.

On February 8, the Museum presented the motion picture film

"Evolution," produced by Dr. Raymond L. Ditmars, edited by Dr. Benjamin C. Gruenberg, published by Urban Motion Picture Industries, Inc.

The Museum arranged a private view for Members, March 8, of the remarkable film "Safari: Martin and Osa Johnson's African Hunt," with a talk by Martin Johnson on his experiences in photographing wild animals.

On March 23, the Museum arranged a private view for Members, the first showing in America, of the film "As a Bird of Passage in Africa," introduced by the author, Bengt Berg.

The Museum co-operated with the Federation for Child Study, April 19, presenting "Behind the Scenes with the Movie Makers," an illustrated talk by Dr. Rowland Rogers on the use of the motion picture as a tool in education.

The New York Academy of Sciences presented an illustrated lecture in the Museum, November 19, by Charles Lane Poor, "Errors of Einstein."

The Museum gave in its auditorium a special lecture for Members, by Roy Chapman Andrews, November 23, illustrated by slides and motion pictures, the first account of the work of the Museum's Third Asiatic Expedition, in co-operation with ASIA Magazine, including the discovery of dinosaurs and other fossils in the desert of Mongolia.

The Museum gave a lecture on December 21, "Jungle Life in India," by Colonel J. C. Faunthorpe, illustrated with still and moving photographs.

Status of Membership

The number of new Members enrolled during 1923 was 1075, of which 77 were Life Members. The loss through death and resignation was 352. There was a net gain of 723, and on December 31, 1923, the total membership was 7,273, divided into classes as follows :

Founders	0	Fellows	52
Benefactors	12	Honorary Life Members	43
Associate Founders	11	Life Members	984
Associate Benefactors	20	Corresponding Members	22
Patrons	123	Sustaining Members	136
Honorary Fellows	12	Annual Members	3,859

Associate Members (non-resident) 1,999

NEW MEMBERS

The following were elected Benefactors:

AMOS F. ENO*
EDWARD S. HARKNESS
GEO. D. PRATT
FELIX M. WARBURG
HARRY PAYNE WHITNEY

The following were elected Associate Founders:

CHILDS FRICK
ADRIAN ISELIN

The following were elected Patrons:

MRS. WALTER WEHLE NAUMBURG
HERBERT F. SCHWARZ
W. K. VANDERBILT
ARTHUR S. VERNAY

The following was elected a Fellow:

S. BAYARD COLGATE

The following were elected Honorary Life Members:

ROY CHAPMAN ANDREWS
C. BADMAJAPOFF
DR. JOSEPH BEQUAERT
HIS EXCELLENCY, SIR HARCOURT BUTLER, G.C.I.E.
COL. J. C. FAUNTHORPE
GENERAL HIS HIGHNESS MAHARAJA, SIR CHANDRA SHUMSHERE JUNG
A. P. KINLOCH
FRANZ A. LARSEN
HIS EXCELLENCY, THE EARL OF READING, G.C.B.
MRS. MARY WHITE TSIPOURAS
ARTHUR S. VERNAY

The following were elected Life Members through Contribution of One Hundred Dollars, or by Gift of Books or Specimens Valued at Two Hundred Dollars or more:

GEORGE N. ARMSBY
LOUIS BAMBERGER
MRS. DWIGHT J. BAUM
ALBERT BLUM
IRVING W. BONBRIGHT
BEECHER S. BOWDISH
MRS. GEORGE TEMPLE BOWDOIN
GEORGE T. BROKAW
DOUGLAS BURDEN

*Deceased.

Guy Cary
Wilson Catherwood
Dr. Henry H. Covell
C. I. Day
Mrs. Dorothy Ryle de Bernard
Herbert M. Dibert
Mrs. E. L. Dickerson
Mrs. John Harden Dorn
H. F. Dunham
William J. Eakins
Mrs. Robert G. Elbert
Ruth B. Fisher
Robert Goelet
William P. Harris, Jr.
Mrs. Wm. Wade Hinshaw
Walter W. Holmes
John Noyes Mead Howells
Roland Jackson Hunter
Mrs. Edward F. Hutton
Dr. Foster Kennedy
Samuel S. Keyser
Lindsley F. Kimball
Arthur Korth
Shepard Krech
Mrs. George F. Kunz
Walter G. Ladd
Mrs. Walter Graeme Ladd
Miss Elizabeth K. Lamont
Goodhue Livingston, Jr.
Wilton Lloyd-Smith
Mrs. Elizabeth C. Marmon
Mrs. A. Graham Miles
Mrs. S. Z. Mitchell
Eugene M. Moore
Thomas F. Murtha
Elkan Naumburg
Miss Dorothy Oak
Mrs. Carson C. Peck
Mason M. Phelps
Mrs. James Tolman Pyle
Robert C. Ream
Charles L. Riker
Mrs. Douglas Robinson
Francis Day Rogers
Mrs. Theodore Roosevelt, Sr.
Wm. J. Ryan
William Ryle
H. Sandhagen
Charles E. Schley
Charles H. Scott
Walter Scott
Mrs. F. Sullivan Smith
P. Shaw Sprague
Maurice C. Sternbach, Jr.
Albert Th. Stewart
Miss Clara F. Stillman
Henry Osborn Taylor
Seth E. Thomas, Jr.
T. Gaillard Thomas
Rev. Tertius van Dyke
J. H. Wade
Mrs. W. Austin Wadsworth
Mrs. Frank Osman Warner
Mrs. J. Watson Webb
Harold T. White
Payne Whitney
Prof. Alice Wilson Wilcox
Park M. Woolley

The following have become Sustaining Members:

Mrs. Elbridge Adams
Mrs. Hanna E. Belden
C. Allen Blyth
Miss Elizabeth D. Bowen

Mrs. Henry W. J. Bucknall
Floyd L. Carlisle
Wm. W. Carman
Mrs. Clarence Dillon
Chas. M. Dutcher
Mrs. A. Wentworth Erickson
Hancke Hencken
Lewis A. Hird
Joseph Kohnstamm
Charles E. F. McCann
Dr. L. D. Ricketts
Mrs. Phelps Stokes
Annette Tilford
Lawrence B. Van Ingen
Mrs. E. Walpole Warren
Arthur A. Zucker

DECEASED MEMBERS

Patrons

George J. Gould
Princess V. Lwoff-Parlaghy
Paul J. Rainey
Mrs. F. F. Thompson

Fellows

Miss Mary Cynthia Dickerson
Frederick Potter

Honorary Life Member

Paul J. Rainey

Life Members

Rev. Arthur Huntington Allen
Henry Clews
Wm. P. Clyde
Miss Katharine Du Bois
Clarence H. Eagle
Mrs. David S. Eggleston
Edward J. Farrell
Mrs. W. R. Grace
Theodore R. Hoyt
Rudolph Keppler
William H. Moore
William F. Patterson
Albert Smith
Miss Clara B. Spence
Mrs. Robert Stewart
Walter C. Witherbee
Henry R. Wolcott

A complete list of Members is appended.

Respectfully submitted,

Percy R. Pyne,
Secretary.

FINANCES, MAINTENANCE, ENDOWMENT

Report of the Treasurer

The restrictions attached to several divisions of the Museum's income make it desirable to record the transactions in these funds in independent and separate accounts. Thus, the appropriation from the City is applied to the care, maintenance and upkeep of the buildings, and to the Museum's educational work, especially the contact with the schools. Therefore, these moneys are kept entirely separate—City Maintenance Account—from any other Museum funds. Similarly, the income from the Jesup Fund can be applied only to scientific research, publication and collections. There are five major and three minor accounts.

The major accounts are:

The Endowment and Investment Account: the capital account of the Permanent Endowment.

The General Account, through which the Trustees' general funds are received and disbursed.

The Morris K. Jesup Fund Account: the record of the receipts and disbursements for scientific work carried on through the income of the Jesup Fund.

The Special Funds Account, through which contributions for specific purposes are disbursed.

The City Maintenance Account, which records the use of the City's appropriation for operating expenses.

The minor accounts include:

The Corporate Stock Account, which shows the disbursements of moneys appropriated by the City for case construction and equipment.

The Trustees' Building Fund Account, through which the income only of the Trustees' Building Fund is disbursed.

The Incidental Account, in which are recorded moneys which are not part of the Museum funds proper but are handled by the Trustees as a matter of courtesy or convenience.

The Treasurer's Report, pages 54 to 67, gives a complete statement of the transactions in the respective accounts. This method of keeping our books does not segregate the total cost

of Museum activities, which for 1923 may be summarized as follows:

General Operating Expenses:	
City Appropriation for Maintenance	$342,313.36
Trustees' General Funds:	
(Applied to Maintenance and to Scientific Work)	325,154.54
Morris K. Jesup Fund:	
(Restricted to Scientific Work)	288,906.93
Special Funds:	
(Contributions for Specific Purposes)	105,803.60
Trustees' Building Fund	1,335.82
Corporate Stock Fund:	
(Appropriated by the City for Equipment)	21,948.00
Total cost of operation	$1,085,462.25

The Endowment of the Museum is the real basis of permanent growth and development of Museum activities. The Treasurer and the Finance Committee, assisted again by the Advisory Committee on Investments, composed of Mr. Arthur M. Anderson, Mr. Francis D. Bartow, and Mr. Charles E. Mitchell, have given close attention to conserving the capital of the funds and to increasing the amount of annual yield.

The capital fund has been enriched during the year by the following important gifts: Mr. Edward S. Harkness, $50,000 (reported in 1922); Mr. George D. Pratt, $50,000; Mr. Felix M. Warburg, $19,000; Mr. Arthur Curtiss James, $26,750; Mr. J. P. Morgan, $127,187.50; and through bequests: Charles E. Rhinelander, $5,000; Albert M. P. Mitchell, $4,953.97; Louisa Combe, $2,403.18; and membership fees, $7,900.

The total book value of the Endowment on December 31, 1923, was $10,850,845.78, an increase of $490,440.84 during the year. This increase is made up of $420,532.74 new capital by gift, bequest and membership fees, and $69,908.10 as a result of the sales and reinvestments by the Finance Committee.

President Osborn, in his annual address to the Trustees, pointed out that $3,000,000 new endowment was needed immediately to maintain the present activities of the Museum, and contributions for this purpose will be welcomed by the Trustees.

Respectfully submitted,

George F. Baker, Jr.,
Treasurer.

SUMMARY OF CLASSIFICATIO
THE AMERICAN MUSEUM OF NATURAL HISTOR

	Jesup Fund		General Account		City Maint. Accou	
	Salaries	Other Items	Salaries	Other Items	Salaries	Othe Item
Scientific	$187,503.80	$99,048.34	$101,062.60	$31,076.32	$57,040.27	
Administration			67,911.15	44,751.80	190,169.29	$14,724.
Heating and Lighting			7,683.49	7,386.72	23,242.49	16,163.
Repairs and Construction of Heating and Lighting				5,027.34	3,140.22	3,770.
Repairs and Construction			12,813.95	6,747.59	27,976.54	6,085.
General Expenses		2,354.79	28,810.12	11,883.46		
	$187,503.80	$101,403.13	$218,281.31	$106,873.23	$301,568.81	$40,744.
Totals by Account	288,906.93		325,154.54		342,313.36	
Morgan Memorial Hall Fund						

F DISBURSEMENTS OF
OR THE YEAR ENDING DECEMBER 31, 1923

Special Funds Account		Trustees' Building Fund Account	Corporate Stock Account	Grand Totals 1923		Totals 1923	Totals 1922
Salaries	Other Items	Other Items	Salaries	Salaries	Other Items		
$38,696.39	$67,107.21			$384,303.06	$197,231.87	$581,534.93	**$564,339.88**
				258,080.44	59,476.41	317,556.85	**292,980.26**
				30,925.98	23,550.61	54,476.59	**50,868.74**
				3,140.22	8,797.41	11,937.63	**13,540.25**
			$21,948.00	62,738.49	12,833.57	75,572.06	**60,254.90**
		$1,335.82		28,810.12	15,574.07	44,384.19	**42,970.14**
$38,696.39	$67,107.21	$1,335.82	$21,948.00	$767,998.31	$317,463.94	$1,085,462.25	**$1,024,954.17**
	105,803.60	1,335.82	21,948.00				
							$30,162.89
							$1,055,117.06

FRED H. SMYTH, *Bursar.*

February 4, 1924.

FINANCIAL STATEMENT
1923

PERMANENT ENDOWMENT

	Par Value	Book Value
Morris K. Jesup Fund	$6,556,038.80	$6,005,743.26
General Endowment Fund*	1,618,882.65	1,565,930.28
The Sage Fund	1,573,300.00	1,334,003.48
George F. Baker Fund	263,150.00	249,995.35
John D. Rockefeller, Jr., Fund	898,850.00	1,018,221.02
Special Endowment Funds:		
J. P. Morgan Fund	450,350.00	449,219.53
Jonathan Thorne Memorial Fund	26,700.00	24,923.05
Matilda W. Bruce Fund	11,000.00	11,000.00
Margaret Olivia Sage Fund	11,000.00	9,995.00
Physical Anthropology Fund	10,528.55	9,997.59
Anson W. Hard Library Fund	5,000.00	5,000.00
	$11,424,800.00	$10,684,028.56

Uninvested Cash:			
Morris K. Jesup Fund	$524.91		
General Endowment Fund	14,110.08		
The Sage Fund	104.86		
John D. Rockefeller, Jr., Fund	152,072.72		
George F. Baker Fund	4.65		
		166,817.22	166,817.22
		$11,591,617.22	$10,850,845.78

TRUSTEES' BUILDING FUND

	Par Value	Book Value
Bonds	$105,500.00	$102,930.91
Cash	5,903.48	5,903.48
	$111,403.48	$108,834.39

*Contributors to the General Endowment Fund, 1884-1923:

Auchincloss, Hugh	$10,223.56	Warburg, Felix M.	$19,000.00	James, D. Willis	$5,000.00
Baker, George F.	250,000.00	Astor, W. W.	1,000.00	Jones, Emma Chambers.	1,000.00
Bridgham, Fanny	15,000.00	Babcock, Samuel D.	5,000.00	Landon, Charles	5,000.00
Combe, Louisa	42,172.33	Baugh, Margaret L.	10,000.00	Lanier, Charles	4,500.00
Constable, James M.	25,000.00	Bishop, Cortlandt Field.	500.00	Lawrence, Mrs. Samuel.	500.00
Davis, Benjamin P.	22,799.25	Bishop, David Wolfe	500.00	Loeb, Solomon	5,000.00
Douglas, James	100,000.00	Bishop, H. R.	1,000.00	Matthiesson, F. O.	1,000.00
Eno, Amos F.	218,000.00	Bliss, George	1,000.00	Mitchell, Albert M. P.	4,953.97
Harkness, Edward S.	100,000.00	Bliss, Mrs. William H.	5,000.00	Parsons, John E.	1,000.00
Havemeyer, H. O.	25,000.00	Bondy, Emil C.	10,000.00	Pyne, Percy R.	2,500.00
James, Arthur Curtiss	26,750.00	Booth, Mary A.	124.13	Rand, George C.	100.00
Jesup, Maria De Witt.	5,000,000.00	Bowdoin, George S.	5,000.00	Rhinelander, Charles E.	9,000.00
Jesup, Morris K.	1,225,000.00	Bradford, Mrs. A. A.	1,000.00	Rockefeller, William.	10,000.00
Juilliard, A. D.	100,000.00	Bruce, Miss Matilda W.	10,000.00	Roebling, John A.	1,000.00
Juilliard, Helen C.	50,000.00	Constable, Frederick A.	2,000.00	Rogers, Mrs. Mary E.	1,000.00
Kitching, Frank W.	10,043.00	Cruikshank, James	95.25	Russ, Edward S.	1,000.00
Mills, D. O.	125,000.00	Davis, Mrs. J. C. Bancroft	50.00	Sands, William R.	10,000.00
Morgan, John Pierpont.	325,000.00	Dodge, William E.	5,000.00	Schermerhorn, Wm. C.	5,000.00
Morgan, J. P.	127,187.50	Dodge, W. E.	10,000.00	Seligman, Henry	1,000.00
Ottendorfer, Oswald	30,000.00	Fiske, Mrs. Martha T.	10,000.00	Swords, Mrs. James R.	500.00
Pratt, George D.	50,000.00	Forbes-Leith, A. J.	1,000.00	Van Praag, Leonidas A.	500.00
Pyne, Percy R. (No. 1).	45,000.00	Gade, Frederika	4,956.72	Villard, Henry	5,000.00
Rockefeller, John D., Jr.	1,025,000.00	Goldenberg, Joel	1,900.00	Wilson, R. T.	1,000.00
Sage, Mrs. Russell.	1,300,513.29	Halsted, Miss L. P.	100.00		$10,672,938.27
Stuart, Mrs. Mary	50,000.00	Hard, Anson W.	5,000.00		
Thorne, Phebe Anna	30,000.00	Hitchcock, Miss S. M.	5,000.00	Patronship Fees	23,000.00
Tilford, Charles E.	25,070.37	Huntington, C. P.	5,000.00	Fellowship Fees	4,500.00
Trevor, Mrs. Emily	30,098.90	Iden, Henry	10,000.00	Life Membership Fees	59,900.00
Vanderbilt, Cornelius	25,000.00	Iselin, Adrian	10,000.00		$10,760,338.27
Vanderbilt, William H.	50,000.00	Jacobi, A.	300.00		

ENDOWMENT AND INVESTMENT ACCOUNT

Receipts, 1923

General Endowment Fund:			
Balance		$30,060.73	
Proceeds from sale of Bonds and Stocks..		*38,243.40	
Mortgage Payments		32,550.00	
Edward S. Harkness Gift		50,000.00	
George D. Pratt Gift		50,000.00	
Felix M. Warburg Gift		19,000.00	
Bequest of Charles E. Rhinelander		5,000.00	
Bequest of Albert M. P. Mitchell		4,953.97	
Bequest of Louisa Combe		2,403.18	
Membership Fees		7,900.00	
George F. Baker Fund, Balance		153.00	
John D. Rockefeller, Jr., Fund:			
Balance	$208,004.00		
Sale of Stocks	586,637.50		
Sale of Rights	39,493.74		
		834,135.24	
The Sage Fund:			
Balance	$3,621.36		
Third Payment by Executors	100,000.00		
		103,621.36	
Total General Endowment			$1,178,020.88
Special Endowment Funds:			
Morris K. Jesup Fund:			
Balance		$2,395.10	
Sale of Bonds		15,488.41	
			17,883.51
J. P. Morgan Fund:			
Balance		$37.65	
Sale of Stock		†126,196.00	
			126,233.65
Jonathan Thorne Memorial Fund:			
Balance			756.79
Interest on Credit Balances			3,209.51
			$1,326,104.34

Disbursements, 1923

General Endowment Fund:			
Purchase of Bonds		$226,001.20	
George F. Baker Fund: Purchase of Bonds		148.35	
John D. Rockefeller, Jr., Fund: Purchase of Bonds		682,062.52	
The Sage Fund: Purchase of Bonds	$87,844.35		
Accrued Interest (to General Account)	15,672.15		
		103,516.50	
Total General Endowment			$1,011,728.57
Special Endowment Funds:			
Morris K. Jesup Fund:			
Purchase of Bonds			17,358.60
J. P. Morgan Fund:			
Purchase of Bonds		$126,232.18	
Transferred to General Account		1.47	
			126,233.65
Jonathan Thorne Memorial Fund:			
Purchase of Bonds		$743.05	
Transferred to General Account		13.74	
			756.79
Interest on Credit Balances (to General Account)			3,209.51
Cash on hand December 31, 1923			166,817.22
			$1,326,104.34

* This includes proceeds from sale of 500 shares of Anaconda Copper Mining Company stock contributed to the General Endowment Fund by Mr. Arthur Curtiss James.

† Proceeds from sale of stock (book value $127,187.50) presented by Mr. J. P. Morgan.

CITY MAINTENANCE ACCOUNT *

Receipts, 1923

Capital Fund:			
Cash on hand January 1, 1923		$14,806.04	
Department of Parks (Appropriation for 1922):			
2. Office Supplies	$73.49		
3. Laundry, Cleaning and Disinfecting Supplies	8.00		
4. Motor Vehicle Supplies	100.67		
8. General Plant Equipment	11.80		
		193.96	
			$15,000.00
Department of Parks (Appropriation for 1923):			
Salaries, Regular Employees		$301,568.81	
Expenses for Other Than Personal Service:			
1. Fuel Supplies	$12,320.00		
2. Office Supplies	5,594.05		
3. Laundry, Cleaning and Disinfecting Supplies	1,540.00		
4. Motor Vehicle Supplies	924.00		
5. General Plant Supplies	2,464.00		
6. Wearing Apparel	1,155.00		
7. Office Equipment	385.00		
8. General Plant Equipment	577.50		
9. General Plant Materials	7,084.00		
10. General Repairs and Replacements..$1,201.73			
Awaiting Reimbursement 1,493.27			
	2,695.00		
11. Telephone service	924.00		
12. Fixed Charges and Contributions	5,082.00		
		40,744.55	
Total net receipts for the maintenance of all departments			$342,313.36
Interest on Credit Balances			453.57
			$357,766.93

Disbursements, 1923

Geology and Invertebrate Palaeontology	$3,128.85	
Mineralogy	2,553.02	
Mammalogy	4,299.91	
Ornithology	3,919.27	
Vertebrate Palaeontology	4,277.11	
Anthropology	8,343.52	
Ichthyology	2,070.23	
Herpetology	1,756.60	
Lower Invertebrates	5,131.05	
Entomology	3,751.95	
Library	9,866.14	
Public Education	11,110.00	
Preparation and Exhibition	1,557.00	
Division of Printing	5,705.50	
Heating and Lighting	47,322.72	
Repairs and Installation	43,535.83	
General Supplies and Expenses	13,146.13	
Administration	170,838.53	
Total net disbursements for the maintenance of all departments		**$342,313.36**
Interest on Credit Balances (to General Account)		453.57
Capital Fund:		
Cash on hand December 31, 1923	$13,506.73	
Bills Awaiting Reimbursement from Department of Parks, December 31, 1923	1,493.27	
		15,000.00
		$357,766.93

* The annual appropriation of the city can be used only for the maintenance of the Museum and is inadequate for this purpose. It cannot be used for the purchase of specimens or for the expenses of exploring and collecting expeditions. The deficiency in maintenance for 1923, amounting to $218,303.41, has been met from the Trustee's General Account.

MORRIS K. JESUP FUND ACCOUNT *

Receipts, 1923

Trustees' Restricted Funds:		
Cash on hand January 1, 1923		$18,180.30
Income from Morris K. Jesup Fund	$278,981.47	
Sale of Publications	1,301.21	
Sales and Exchanges	389.37	
Interest on Credit Balances	733.08	
		281,405.13
Total net receipts for the development of all departments		**$299,585.43**

Disbursements, 1923

Geology and Invertebrate Palaeontology	$15,011.86	
Mineralogy	2,219.26	
Mammalogy	34,360.41	
Ornithology	17,814.14	
Vertebrate Palaeontology	38,975.77	
Comparative Anatomy	8,677.27	
President Osborn's Science Fund	7,212.49	
Anthropology	31,565.55	
Ichthyology	5,986.87	
Dr. Dean's Research and Publication Fund	1,200.00	
Herpetology	5,906.46	
Lower Invertebrates	5,319.28	
Entomology	6,747.38	
Woods and Forestry	1,800.00	
Library	10,289.22	
Public Education	9.80	
Preparation and Exhibition	66,318.13	
Publications	16,289.50	
Division of Printing	10,232.19	
General Supplies and Expenses	16.56	
Administration	600.00	
Interest on Bank Loans	2,354.79	
Total net disbursements for the development of all departments		**$288,906.93**
Cash on hand December 31, 1923†		10,678.50
		$299,585.43

*Disbursements of this account are made as the Board of Trustees may direct, for the purchase of specimens, for the expenses of field parties, and for the support of scientific work.

†The Treasurer's books show a balance on hand December 31, 1923, of $10,678.50, which has been carried forward to 1924 to meet pledges and obligations contracted in 1923.

GENERAL ACCOUNT

Receipts, 1923

Income from General Endowment		$76,932.72	
Income from the Sage Fund		70,785.37	
Income from George F. Baker Fund		13,155.69	
Income from John D. Rockefeller, Jr., Fund		42,070.66	
Interest on Credit Balances		4,554.90	
Annual Members		38,395.00	
Sustaining Members		3,275.00	
Associate Members		5,646.00	
Sales and Exchanges		1,046.54	
Sale of Publications		6,103.61	
Subscriptions to Natural History		2,971.80	
Contributions of Trustees for General Purposes:			
George F. Baker, Jr.	$3,500.00		
Frederick F. Brewster	1,500.00		
Cleveland H. Dodge	2,500.00		
Walter Douglas	1,500.00		
W. A. Harriman	1,000.00		
Archer M. Huntington	1,000.00		
Adrian Iselin	1,000.00		
Arthur Curtiss James	2,500.00		
Walter B. James	500.00		
Ogden Mills	5,000.00		
J. P. Morgan	6,000.00		
Henry Fairfield Osborn	1,000.00		
George D. Pratt	2,500.00		
Percy R. Pyne	2,000.00		
John B. Trevor	500.00		
Felix M. Warburg	2,500.00		
		$34,500.00	
Contributions for General Purposes:			
Hewlett Scudder	$20.00		
F. Lange	400.00		
		$420.00	
Total net receipts for the development of all departments			**$299,857.29**
Income from the Sage Fund, 1921		$10,651.07	
Income from the Sage Fund, 1922		3,372.37	
			$14,023.44
Contributions of Trustees for General Purposes for 1924:			
Childs Frick			3,500.00
Loans:			
Incidental Account, Group Life Insurance No. 1		$1,269.89	
Incidental Account, Group Life Insurance No. 2		762.37	
Bursar's Account		35,000.00	
			$37,032.26
Bank Loans:			
Proceeds of Notes held by the United States Trust Company of New York			250,000.00
			$604,412.99

GENERAL ACCOUNT

Disbursements, 1923

Geology and Invertebrate Palæontology	$9,121.73	
Mineralogy	2,481.46	
Mammalogy	8,226.74	
Ornithology	6,722.63	
Vertebrate Palæontology	7,662.67	
Comparative Anatomy	3,211.93	
Anthropology	10,859.81	
Ichthyology	3,762.73	
Herpetology	5,541.66	
Lower Invertebrates	6,994.20	
Entomology	4,085.74	
Comparative Physiology	21.37	
Public Health	1,065.61	
Library	15,886.42	
Public Education	23,254.59	
Preparation and Exhibition	3,772.73	
Publications	19,073.60	
Division of Printing	22,369.81	
Heating and Lighting	16,837.49	
Repairs and Installation	27,802.72	
General Supplies and Expenses	41,068.90	
Administration	57,391.55	
Pension Fund	18,996.54	
Group Life Insurance	4,767.06	
Interest on Bank Loans	4,174.85	
Total net disbursements for the development of all departments		**$325,154.54**
Deficit of 1922 Account		15,000.97
Loans:		
Incidental Account	$2,619.23	
Bursar's Account	35,000.00	
		37,619.23
Balance December 31, 1923:		
Proceeds of Notes held by United States Trust Company of New York to meet overdrafts		*226,638.25
		$604,412.99
*Balance of December 31, 1923, is the remainder of the Notes held by the United States Trust Company of New York..		$226,638.25
Loans Receivable:		
Group Life Insurance advance	$1,856.86	
Disbursements made in anticipation of the Accrued Interest of the Sage Bequest during 1921, balance	12,748.28	
Ditto for 1922	8,864.65	
Ditto for 1923	3,391.96	
		26,861.75
		$253,500.00
Contributions of Trustees for General Purposes for 1924 (Paid in 1923)	$3,500.00	
Proceeds of Notes held by the United States Trust Company of New York	250,000.00	
		$253,500.00

SPECIAL FUNDS ACCOUNT

Receipts, 1923

GEOLOGY AND INVERTEBRATE PALAEONTOLOGY:			
James Douglas Geological Fund:			
Balance			$850.00
MINERALOGY:			
Matilda W. Bruce Fund:			
Balance	$549.01		
Interest	660.00		
		$1,209.01	
J. P. Morgan Fund:			
Transferred from Reserve		287.00	
			1,496.01
MAMMALOGY:			
George S. Bowdoin Whale Model Fund:			
Balance		$1,000.00	
Third Asiatic Expedition Fund:			
Balance	$150.34		
American Asiatic Assn	6,000.00		
George F. Baker	1,000.00		
Mr. and Mrs. Charles L. Bernheimer	500.00		
Estate of H. P. Davison	1,000.00		
Childs Frick	2,000.00		
W. A. Harriman	250.00		
Arthur Curtiss James	1,000.00		
Gilbert S. McClintock	100.00		
Hoyt Miller	10.00		
J. P. Morgan	7,500.00		
Henry Fairfield Osborn	500.00		
John D. Rockefeller, Jr	7,500.00		
Morris K. Jesup Fund:			
Subscription	16,072.00		
		43,582.34	
Faunthorpe-Vernay Indian Expedition Fund:			
Arthur S. Vernay		2,085.00	
			46,667.34
ORNITHOLOGY:			
Crandall Oological Fund:			
Balance		$1,160.00	
Margaret Olivia Sage Fund:			
Interest		427.88	
Whitney South Sea Expedition Fund:			
Balance	$1,580.17		
Harry Payne Whitney	20,000.00		
		21,580.17	
Panama Bird Fund:			
Balance		1,000.00	
Amazon Field Fund:			
Balance	$250.00		
Mrs. E. M. B. R. Naumburg	1,000.00		
		1,250.00	
Special Bird Fund:			
Alfred M. Collins		75.00	
			25,493.05
Carried forward			$74,506.40

SPECIAL FUNDS ACCOUNT

Disbursements, 1923

MINERALOGY:		
Matilda W. Bruce Fund:		
Purchase of Specimens	$558.05	
J. P. Morgan Fund:		
Murals and Tablet	287.00	
		$845.05
MAMMALOGY:		
Third Asiatic Expedition Fund:		
Field Expenses in China	$34,675.83	
Faunthorpe-Vernay Indian Expedition Fund:		
Field Expenses in India	2,085.00	
		36,760.83
ORNITHOLOGY:		
Margaret Olivia Sage Fund:		
Field Expenses in Chile	$427.88	
Whitney South Sea Expedition:		
Field Expenses in South Sea Islands	20,008.94	
Amazon Field Fund:		
Purchase of Birds	155.06	
Special Bird Fund:		
Purchase of Birds	75.00	
		20,666.88
Carried forward		$58,272.76

SPECIAL FUNDS ACCOUNT

Receipts, 1923

Brought forward			$74,506.40
VERTEBRATE PALAEONTOLOGY:			
Edward D. Cope Biography Fund:			
Balance	$300.00		
Mrs. Julia Cope Collins	50.00		
		$350.00	
Pleistocene Faunal Life Scenes Fund:			
Balance		50.00	
American Pliocene Fund:			
Balance	$5,259.50		
Anonymous	6,800.00		
		12,059.50	
Third Asiatic Field Fund:			
Balance		1,000.00	
South Asiatic Field Fund:			
Balance		4,316.53	
J. P. Morgan Fund:			
Transferred from Reserve		21,300.00	
Western Field Fund:			
Balance	$4,831.47		
Anonymous	4,000.00		
		8,831.47	
			47,907.50
COMPARATIVE ANATOMY:			
Evolution of Man Fund:			
Balance		$139.77	
Comparative Anatomy Fund:			
Balance		1,973.00	
			2,112.77
ANTHROPOLOGY:			
East Asiatic Fund:			
Balance		$813.49	
Anthropology of the Southwest Fund:			
Balance		23.68	
Physical Anthropology Fund:			
Balance	$59.85		
Interest	446.14		
		505.99	
Migrations Research Fund 1924:			
National Research Council		2,000.00	
Navajo Expedition Fund:			
Mrs. Willard Straight		500.00	
Anthropology Fund:			
Margaret Lewis		10.00	
			3,853.16
ICHTHYOLOGY:			
Cleveland H. Dodge Ichthyology Fund:			
Balance		514.17	
Fish Bibliography Fund:			
Bashford Dean		1,200.00	
			1,714.17
Carried forward			$130,094.00

SPECIAL FUNDS ACCOUNT

Disbursements, 1923

Brought forward		$58,272.76
VERTEBRATE PALAEONTOLOGY:		
American Pliocene Fund:		
Services of Preparators and Field Expenses	$6,584.30	
South Asiatic Field Fund:		
Salary of Field Assistants, and Field Expenses	4,316.53	
J. P. Morgan Fund:		
Special Grant for Research and Publication Work, and Preparation of Murals	21,300.00	
Western Field Fund:		
Field Expenses	2,496.85	
		34,697.68
COMPARATIVE ANATOMY:		
Evolution of Man Fund:		
Special Services	$113.67	
Comparative Anatomy Fund:		
Special Services	1,035.72	
		1,149.39
ANTHROPOLOGY:		
East Asiatic Fund:		
Purchase of Specimen	25.00	
Physical Anthropology Fund:		
Purchase of Specimens	505.99	
Migrations Research Fund 1924:		
Special Services	1,577.94	
Navajo Expedition Fund:		
Field Expenses	500.00	
Anthropology Fund:		
Purchase of Specimen	10.00	
		2,618.93
ICHTHYOLOGY:		
Cleveland H. Dodge Ichthyology Fund:		
Field Expenses	150.00	
Fish Bibliography Fund:		
Special Services	52.22	
		202.22
Carried forward		$96,940.98

SPECIAL FUNDS ACCOUNT

Receipts, 1923

Brought forward			$130,094.00
ENTOMOLOGY:			
Entomological Fund:			
Balance		$600.00	
Herbert F. Schwarz		200.00	
			800.00
LIBRARY:			
Anson W. Hard Library Fund:			
Interest		212.50	
Special Library Fund:			
James B. Ford	$451.00		
Ogden Mills	1,110.78		
		1,561.78	
			1,774.28
PUBLIC EDUCATION:			
Jonathan Thorne Memorial Fund:			
Balance	142.78		
Interest	1,095.74		
		1,238.52	
School Fund:			
Department of Education of the City of New York:			
1922 Account	55.48		
1923 Account	1,964.34		
		2,019.82	
			3,258.34
PREPARATION AND EXHIBITION:			
Underseas Paintings Fund:			
Arthur Curtiss James		2,000.00	
Mrs. John Wood Stewart		400.00	
Mrs. William K. Vanderbilt		1,000.00	
Miss Bettina Warburg		200.00	
Paul M. Warburg		200.00	
			3,800.00
PUBLICATIONS:			
Jesup North Pacific Expedition Publication Fund:			
Balance			351.65
Total net receipts for the development of specific departments			**$140,078.27**
J. P. Morgan Fund Reserve:			
Balance		$535.28	
Interest		21,602.19	
			22,137.47
Angelo Heilprin Exploring Fund Reserve:			
Balance		$550.00	
Mr. and Mrs. Paul J. Sachs		500.00	
			1,050.00
Interest on Credit Balances			854.82
			$164,120.56

SPECIAL FUNDS ACCOUNT

Disbursements, 1923

Brought forward			$96,940.98
LIBRARY:			
Anson W. Hard Library Fund:			
Purchase of books		$212.50	
Special Library Fund:			
Purchase of Books		1,561.78	
			1,774.28
PUBLIC EDUCATION:			
School Fund:			
Loaning Slides to Public Schools:			
1922 Account	$55.48		
1923 Account	1,964.34		
		2,019.82	
Jonathan Thorne Memorial Fund:			
Education for the Blind		1,238.52	
			3,258.34
PREPARATION AND EXHIBITION:			
Underseas Paintings Fund:			
Preparation of Murals			3,800.00
PUBLICATIONS:			
Jesup North Pacific Expedition Publication Fund:			
Special Services			30.00
Total net disbursements for the development of specific departments.			**$105,803.60**
J. P. Morgan Fund Reserve:			
Transferred to J. P. Morgan Fund, Mineralogy		$287.00	
Transferred to J. P. Morgan Fund, Vertebrate Palaeontology		21,300.00	
			21,587.00
INTEREST ON CREDIT BALANCES:			
Transferred to General Account			854.82
Cash on hand December 31, 1923			35,875.14
			$164,120.56

CORPORATE STOCK ACCOUNT
1923

Receipts:		
Department of Parks:		
C. D. P. 3 K	$21,552.00	
C. D. P. 3 Q	396.00	
		$21,948.00
Interest on Credit Balances		5.00
		$21,953.00
Disbursements:		
Payroll of Mechanics, etc		$21,948.00
Interest on Credit Balances, Transferred to General Account		5.00
		$21,953.00

TRUSTEES' BUILDING FUND ACCOUNT
1923

Receipts:	
Cash on hand January 1, 1923	$2,666.42
Income from Investment Fund	4,471.25
Interest on Credit Balances	101.63
	$7,239.30
Disbursements:	
Architects' Fees	$1,335.82
Cash on hand December 31, 1923	5,903.48
	$7,239.30

INCIDENTAL ACCOUNT
1923

Receipts:		
Cash on hand January 1, 1923		$230.58
Received from Individuals and Societies		4,003.51
Group Life Insurance:		
Employees' Premium Payments	$4,693.56	
Dividend on Policy	133.00	
Loans from General Account	2,619.23	
		7,445.79
Interest on Credit Balances		31.03
		$11,710.91
Disbursements:		
Disbursements for Individuals and Societies		3,946.10
Group Life Insurance:		
Premiums	$5,012.97	
Loan Instalments paid General Account	2,032.26	
		7,045.23
Interest on Credit Balances, Transferred to General Account		31.03
Cash on hand December 31, 1923		688.55
		$11,710.91

All the foregoing accounts have been

Examined and Approved { GEORGE D. PRATT, FREDERICK TRUBEE DAVISON, CLEVELAND EARL DODGE } *Auditing Committee*

E. & O. E.

New York, December 31, 1923. GEORGE F. BAKER, JR., *Treasurer.*

REPORTS OF THE DIRECTOR AND CURATORS

REPORT OF THE DIRECTOR

FREDERIC A. LUCAS

The greater events of the year—progress in the erection of the Southeast Wing and Hall of Ocean Life and the success of the Third Asiatic Expedition—are considered at length in the Report of the President; it suffices to say here that the buildings have gone steadily upward and that the results of the Third Asiatic Expedition have exceeded our fondest hopes.

Attendance

The attendance has again passed the million mark and has exceeded that of 1922, the number of visitors being 1,246,402, the total attendance being 1,431,722.

STATISTICS OF NUMBERS REACHED BY THE MUSEUM AND ITS EXTENSION EDUCATIONAL SYSTEM

	1919	1920	1921	1922	1923
Board of Education Lectures	1,191	17,632	27,362	16,711	18,917
Lectures to School Children and classes visiting the Museum for Study.....	35,221	57,627	51,133	118,651	134,669
Meetings of Scientific Societies and Other Meetings and Lectures.....	21,475	25,491	34,206	17,610	31,734
Total	57,887	100,750	112,701	152,972	185,320
Attendance in Exhibition Halls	810,575	937,265	1,061,696	1,156,884	1,246,402
Total attendance for all Purposes	868,462	1,038,015	1,174,397	1,309,856	1,431,722
Lectures to Pupils in Local Centers	25,575	33,761	30,750	58,647	22,598
Number reached by Motion Picture Service					85,302
Number reached by Lantern Slide Service.....				2,582,585	3,839,283
Npmbers reached by Circulating Collections.....	955,438	1,312,487	1,247,515	1,648,608	1,491,021
Grand Total.....	1,849,475	2,384,263	2,452,662	5,599,696	6,869,926

Publicity

The work of publicity, as heretofore, has been well administered by Mr. Pindar, ninety-five bulletins having been sent out from his office. This, however, is but a small portion of the work accomplished, as there are daily calls—frequently many calls a day—for information in regard to various branches of the work of the Museum. Such requests

are particularly numerous when some item, such as the discovery of dinosaur eggs, appeals to the popular fancy, and it frequently happens that members of the staff are called up at their homes by enterprising writers in search of "copy."

Due to its liberal attitude in the way of information and illustrations, the work of the Museum is kept well before the public.

Sales of Publications

The demand for "popular publications" continues good, the sales being, *General Guide* 4,174, *Handbooks* 2,414, *Leaflets* 6,870, reprints 942, and *An Hour in the Museum* 2,141.

The *Leaflets* most in demand are "Geology of New York City and Vicinity," "Peruvian Art," "Guide to the Mineral Collection," and "The Story of Museum Groups." The most popular Leaflet of all, "The Hall of the Age of Man," unfortunately has been out of print, but a new and enlarged edition was issued just as the year closed.

The most popular *Handbooks* are "Ancient Civilizations of Mexico and Central America," and "Animals of the Past," the sales of which were respectively 447 and 745 copies.

Under the supervision of Mr. Pindar, several series of much-needed postcards were issued during the year.

Printing Plant

The extension of the printing plant has, as was hoped, greatly increased the output of publications, though the great demands upon it, including the printing of *Natural History*, have prevented the issue of as many Leaflets as have been called for. The printing of large editions, now that there is fairly good knowledge of what is desired by the public, will later on ease the present situation.

PRINTED DURING 1923

	Copies	Pages	Total Pages
"Geology of New York City and Vicinity"	1,800	16	28,800
"Our Common Butterflies"	3,558	30	106,740
"Mastodons of the Hudson Highlands"	1,040	24	24,960
"General Guide"	9,500	136	1,292,000
"Birds of the New York City Region"	4,000	400	1,600,000
"Guide to the Hall of Mammals"	2,135	18	38,430
"Preparation of Birds for Study"	1,500	45	67,500
"Hall of the Age of Man"	2,140	32	68,480
		701	3,226,910

DEPARTMENT OF PREPARATION

INSTRUCTION IN THE LATEST METHODS IN TAXIDERMY BEING GIVEN TO A CLASS OF BOY SCOUTS

Exhibits

In spite of the congestion in the exhibition halls and the unavoidable delay in the reorganization and increase in the preparation force, good progress has been made in various directions, especially since the advent of Mr. Clark. Prior to that there were but two taxidermists employed and the number is still far short of what is needed. As recorded elsewhere, the group of Rhinoceros Iguanas has been completed and is ready for removal to the New Hall of Reptile Life, and the exhibit of Races of Mankind is well advanced.

The group of Northern Sea Lions, which is to balance the Sea Elephants at the eastern end of the Hall of Ocean Life, has been commenced and we are fortunate in having for the modeling of this group the services of Mr. C. J. Albrecht, who has made long and careful studies of the Sea Lions in their native haunts.

The sharks for which molds were secured by Mr. Bell more than two years ago are being assembled, the first to be completed being a fine example of the Hammerhead.

Special Exhibits

Among the more important of the many special exhibitions were those showing the results of the season's work of the Third Asiatic Expedition, the First Australian Expedition, the plans and work of the Whitney South Sea Expedition, and the results of the Harrison Williams Galapagos Expedition of the Department of Tropical Research of the New York Zoological Society.

Accessions

Among the noteworthy gifts are six undersea paintings by Zarh H. Pritchard, presented by friends of the Museum and destined to form one of the brilliant and attractive features of the Hall of Ocean Life.

Through the aid of an article in the daily press, widely copied throughout the country, offering twenty-five dollars for the nest and young of the mole, the desired material was obtained, and incidentally much information in regard to the breeding habits of this common but little-known animal.

By the help of the State Conservation Commission, adults and young of the raccoon were secured. One might think that such a well-known and comparatively abundant animal as the raccoon would be obtained without difficulty, but for ten years past a raccoon group has been among our desiderata. The giant armadillo and the rare panda have literally been brought to our door, but it

required a special effort to get the raccoon and even now it remains to make the badly needed group.

Mr. Tschudy obtained material, including sketches and photographs, for a group of prairie dogs, the animals themselves, through the courtesy of Mr. Figgins, being presented by the Colorado Museum of Natural History.

The work of supplying or renewing the sprays of foliage in the Hall of North American Woods has been steadily pursued by Mr. Narahara, and many branches have been supplied, including examples of the brilliantly colored autumn foliage shown by some of the oaks and maples. Unfortunately, foliage made by the "Mintorn process" with its several layers of wax and "fabric" does not withstand the changes of our variable climate and the dryness of our steam-heated buildings, and in time the leaves curl. The Akeley method, with its more homogeneous basis for the leaf, is more enduring.

Care of the Building

The care of the building, with the growing congestion and increasing number of visitors, is more and more difficult; the additions to and changes in the exhibits, with the accompanying changes in cases and lighting, make continual demands on the mechanic force for repairs and alterations, while the increase in cost of labor and materials prohibits any additions to the number of employees.

Needs of Museum

The needs of the Museum are much the same as in 1922, but it is hoped that some relief may be brought about during the coming year by the completion of the Southeast Wing and Hall of Ocean Life.

It is discouraging to note the continued damage to the building and especially injury to the grounds, by both children and adults, and the need of a fence to check these depredations is more apparent than ever. A fence along either driveway would be most helpful, as this would prevent crossing this portion of the grounds with the consequent destruction of shrubs and wearing away of the banks.

PUBLIC EDUCATION IN THE MUSEUM AND IN THE SCHOOLS

GEORGE H. SHERWOOD, Curator

The School Service Building, for which appropriation was unanimously voted on April 21, 1922, by the Board of Estimate and Apportionment, is progressing satisfactorily.

School Service Building

This will be a five-story structure, 160 feet long by 90 feet wide on the first floor and 56 feet wide on the upper floors, and it will occupy the southwest court. Here all the activities of the Department in cooperation with the schools will be localized and here more adequate room will be had for this work, which has become so crowded as it has grown. Architects' plans have been made, repeatedly discussed in conference, every detail carefully examined, numerous modifications made, and finally approved. Naturally, we look forward with keen anticipation to the completion of this building, when with the greatly increased equipment and larger staff, we welcome the larger opportunity.

During the year 1923, we have made strides toward this increased opportunity by eclipsing all former years on the whole in taking the Museum to the Schools and in bringing the Schools to the Museum.

The work of lending lantern slides to the schools continues to show remarkable growth. A total circulation of 440,315 slides has been reached, in comparison with 330,298

Lantern Slide Loans

circulated in 1922. A better index of the growth is shown in the number of loans and in the number of schools served. The number of separate loans made in 1923 was 9,677 in comparison with 6,219 for 1922. The number of public schools borrowing slides in 1923 was 240, compared with 226 in 1922. According to careful estimates, the total number of pupils reached by the lantern slides alone in 1923 was 3,839,283, as compared with 2,582,585 in 1922.

	1921	1922	1923
Total Number of Borrowers	295	431	328
Total Number of Loans	3,963	6,219	9,677
Total Number of Slides Lent	209,451	330,298	440,315
Number of Public Schools Borrowing	182	226	240
Number of Loans to Public Schools	3,187	5,386	8,956
Number of Slides Lent to Public Schools	175,272	294,358	410,013

During the fall term of this year, we undertook to prepare groups of slides to correlate with motion picture films lent to the schools by the Bureau of Visual Instruction of the Board of Education. In this cooperation our lantern-slide Librarian prepared 73 groups of slides to be used in the teaching of Geography of the United States, Physical Geography, Biology, and Domestic Science. These were lent 166 times to the schools.

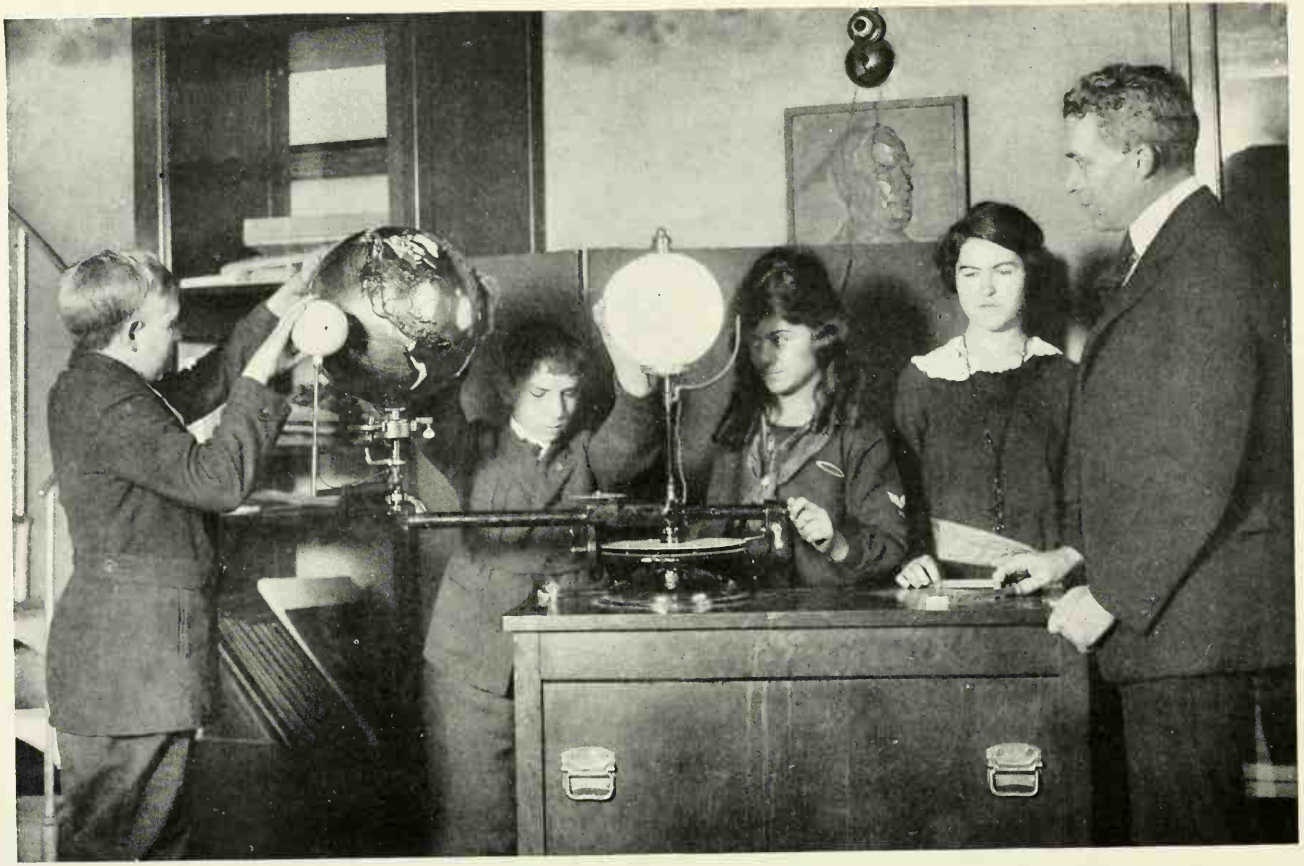
The lending of lantern slides is the only part of the Museum's work with the schools that receives direct financial support from the Board of Education, the appropriation for 1923 having been $3,000.00. It is hoped that the Board will increase this appropriation since this amount does not cover one-third of the actual cost of this branch of the service.

Motion Pictures

The lending of motion pictures to the schools has increased during the year from 145 reels in 1922 to 279 in 1923. This branch of the work is still small, for two reasons: the limited size of our motion picture library and the fact that comparatively few school buildings are equipped for the use of motion pictures. In the years to come this important part of our work promises to grow to large proportions.

Circulating Natural History Collections

During the year, 559 regular cases of mounted birds, small mammals, minerals and rocks, native woods, economic insects, etc., and 850 especially prepared collections have been lent to 472 schools in Greater New York. The special collections are a particularly interesting development in our work. Most of this material was lent to art classes in the various high schools and enthusiastic reports indicate its usefulness. In fact, there has not been enough material to supply the demand. The total number of pupils studying the collections in 1922 was 1,648,608; in 1923 it was 1,491,021, the decrease being due entirely to insufficient messenger service to make the transfers regularly at the close of the three-weeks' loan-period. The lending of lantern slides has taken precedence, and on account of the great increase



DEPARTMENT OF PUBLIC EDUCATION

A Lesson in Astronomy

A feature of the Museum's work for the Blind, carried on through the Jonathan Thorne Memorial Fund, is the regular attendance of the blind children from the public schools

in that activity, without corresponding increase in messenger service, the use of the natural history specimens has fallen off.

	1919	1920	1921	1922	1923
No. collections in use...	668	887	869	824	1,409
No. of schools in Greater New York supplied...	385	448	477	475	472
No. of pupils studying collections	860,992	1,176,055	1,247,515	1,648,608	1,491,021

A direct result of our closer contact with the Training Schools of the city is evidenced by the fact that 89 pupil-teachers came to the Museum to select nature material with which to give demonstration talks.

Lectures for School Children

Lectures in the Museum auditorium planned to supplement classroom work in the schools show a marked increase in attendance over those in 1922. Due probably to greater care in providing what the teachers need and also to the stimulation in interest from the course of motion picture stories of great classics, the number of lectures increased from 46 in 1922 to 83 in 1923, while the attendance increased from 46,149 in 1922 to 76,430 in 1923.

Lectures were also given in our local lecture centres, Washington Irving High School, Public School 42, the Bronx, and the New York Training School for Teachers, as in previous years. Lectures to the students in biology from the high schools during Regents' Week, two series in cooperation with Mr. Van Evrie Kilpatrick of the School Garden Association, two courses to Members of the Museum and two courses to Children of Members of the Museum, and more than thirty miscellaneous lectures to school children either in the Museum or in the schools have been given during the year.

Classes for the Blind and Sight Conservation Pupils

Supported by the income from the Jonathan Thorne Memorial Fund, classes of blind children and of sight-conservation pupils have received instruction. Talks were given only upon subjects that can be illustrated by objects or apparatus which can be handled. During the year, 184 of these talks were given as compared with 152 in 1922. The total attendance in 1923 was 2,934 pupils as compared with 2,586 in 1922. For these lessons the teachers bring the children to the Museum.

As evidence of the appreciation which the teachers have for their Museum visits, it is gratifying to note that the class from Public School 6, the Bronx, and one of the classes from Public School 6, Manhattan, chose all the subjects offered in our spring course and attended all ten talks.

In addition to the talks to the blind children and to the sight-conservation classes, the Department has lent to each of 24 classes a large relief globe for continuous use. Natural history specimens have also been lent to these classes, to the Community House for the Blind and to the New York Institute for the Blind.

Loans to Public Libraries

Collections of natural history specimens and of anthropological material have been supplied to branch public libraries as in previous years. These loans have stimulated the borrowing of books on these subjects, especially among young people of the neighborhood, thus extending the influence of the Museum, and without doubt many boys and girls become interested in the Museum in this way. During the year, 52 loans were made to 19 branch public libraries.

Docent Service

The Department has furnished, upon request, guides to conduct teachers and classes through the Museum and to explain the exhibits. This service has been extended to all schools, whether public, private, or parochial, located in New York City or outside. Not only the elementary and secondary schools, but also a number of colleges and universities have called upon the Department for guides. During the past ten years, a delegation of students from the Columbia University Summer School has visited the Museum every season, and has been conducted through the halls under the guidance of members of the Department, aided by members of the scientific staff of other departments. And we are dependent upon this same help at the time of the receptions given in January and in June to the large graduating classes from the New York Training School for Teachers and from the Maxwell Training School for Teachers.

The docent service is an important and valuable part of our educational work, and it fully justifies the large amount of time required in carrying it on. There is opportunity here for large expansion and growth.

Photographic Work

The photographic work of the Museum has continued to grow, so that during the year more work had to be sent out to commercial photographers than in any preceding year, this being the work in addition to that done by the two Museum photographers. Taking care of negatives brought back by expeditions and those given to or deposited in the Museum, cataloguing these negatives, making, mounting, and captioning file prints, constitute a large part of the work. In addition to this, illustrations are made for Museum publications and for text-books, newspapers, and magazines, and slides are made for the Museum files, for members of the scientific staff, and for schools and colleges scattered over the world.

During the year, 1,604 negatives, 13,807 prints, 9 transparencies, 599 enlargements, and 5,827 lantern slides were made.

The reference library of photographs now comprises 83,777 negatives and 93,731 prints.

Contact with Outside Organizations

Curator Sherwood was the official representative of the American Museum of Natural History at the annual meeting of the British Museums Association held at Hull, England, July 9 to 13. At this meeting he presented a paper on the American Museum and its educational work with the schools.

Doctor Fisher has been appointed on the Board of Managers of the Long Island Biological Association, which has during the year taken over from the Brooklyn Institute of Arts and Sciences the control of the Biological Laboratory at Cold Spring Harbor.

The Museum auditorium has been placed at the disposal of the Visual Instruction Association of New York and of the Visual Instruction Association of America for their meetings throughout the year. Since Dr. Ernest L. Crandall, who is Director of Lectures and of Visual Instruction under the Board of Education, is president of both these organizations, our cooperation with his bureau is thus made closer.

Dr. Fisher has served on the Curriculum Committee and on the Biology Committee of the Visual Instruction Association of New York, and on the Biology Committee of the Bureau of Lectures and Visual Aids to Instruction of the Board of Education.

The Museum has furnished a meeting place for a course in training for Boy Scout leadership, this important work being under

the direction of Mr. B. T. B. Hyde, who has done so much to develop the outdoor camp museum for Boy Scouts.

Dr. Fisher is examiner for the Boy Scouts of Manhattan for the Bird Study Merit Badge.

Change in Personnel

On October 1, Mrs. Ruth Crosby Noble, who had been Assistant Curator since October 1, 1919, resigned from the Department, but arrangements have been made for her services in special cases.

In the fall, Miss Josephine Hopkins and Miss Farida A. Wiley were appointed members of the Department to assist in the lantern slide work. Early in the year, Mrs. Gladys L. Pratt became lantern slide colorist.

Acknowledgments

The formal accession list acknowledges the many gifts presented to the department during the year, but we especially wish to express our gratitude to the following: Mr. Martin Johnson for a copy of his remarkable motion picture film, "Trailing Wild Animals in Africa"; Prizma, Inc., for one reel of colored motion pictures entitled "Wonderful Water"; Swift & Co., Canadian Pacific Railway, Atchison, Topeka & Santa Fe Railway, Ward Baking Co., American Relief Administration and the Hammermill Paper Co. for lantern slides and photographs to be used in our work with the schools.

GEOLOGY, GEOGRAPHY AND PAST HISTORY OF THE EARTH

EDMUND OTIS HOVEY, Curator

Exhibition Halls

The geological relief models of the Yosemite Valley, California, and Crater Lake, Oregon, have been completed and added to the series on exhibition. They are strikingly beautiful pieces of work and they add much to the attractiveness of the Hall of Geology. We are indebted to the United States Geological Survey for much special assistance in the preparation of these models through the loan of the rocks of the regions, collected in the Yosemite Valley by Dr. F. C. Calkins and in the Crater Lake district by Dr. J. S. Diller. The unpublished hard-rock geology of the Yosemite Valley was furnished by Dr. Calkins and the glacial geology by Dr. François E. Matthes. The Yosemite Valley is a wonderful example of a glacial erosion system superimposed upon a stream erosion system which was determined by fault zones in a granite area and affected by periodical regional uplifts. Crater Lake is a vast crater-like depression in a region of extensive volcanic activity which is the crater left by the eruptions that destroyed the ancient volcano Mt. Mazama that once lifted its head thousands of feet above the area now occupied by the lake.

There have also been placed on exhibition the cores of the topogeologic models of the Colorado Springs-Pikes Peak region, the Van Horn, Texas, region, a portion of the Yellowstone Park area covering the Mammoth Hot Springs Terraces and the Norris Geyser Basin, a section of the Potomac River region at Pawpaw, West Virginia, and Niagara Falls and vicinity. These five cores and that of New York City, finished last year, await modeling and installation to complete the series of fifteen topogeologic models planned for the Hall of Geology. It was the happy suggestion of Associate Curator Reeds that the club-shaped ends of the old upright cases be utilized for these models, and he suggested the subjects which have been chosen for all but two of the models. The nine models already installed have drawn thousands of vis-

itors into the hall, including many classes of students of geology and geography, and, together with the Copper Queen Mine models and specimens and the groups of the Copper Queen Cave and Weyer's Cave, form some of the most striking exhibits there.

The Department is rich in fulgurites, or "Lightning Tubes," and an exhibit of these interesting objects has been installed in a case in the Hall of General Geology on the ground floor of the Museum. The series on view includes tubes from the sand plains of the Sahara, central Illinois, and New South Wales, Australia, and some which have been formed in the rocks of Mt. Ararat, Armenia, and Nevada and northern Michigan.

Seismograph

The seismograph of the New York Academy of Sciences, under the care of Associate Curator Reeds, as Observer in Charge, made noteworthy records of the heavy earthquake 600 miles northwest of San Francisco on January 31 and of one that took place in the South Pacific on February 2. The seismograph has grown to be a source of great and desirable publicity to the Museum, and during the year the Associate Curator answered numerous inquiries regarding the instrument and earthquakes and gave out reports on all the prominent shocks which occurred.

Field Work

The Curator had the privilege of spending about five months on an expedition to Australia and New Zealand, the primary object of his journey being to serve as the representative of the Museum at the Pan-Pacific Science Congress meeting in Melbourne and Sydney. He visited the museums of Brisbane, Sydney, Melbourne, Adelaide, Auckland, Wellington, Christchurch and Dunedin, strengthening or initiating exchange relations with the American Museum. He also visited and collected valuable notes, specimens and photographic negatives at many famous localities, among them about eight islands and cays of the Great Barrier Reef region (as the guest of the Queensland Government), the coal fields and Permian varve clays of the West Maitland, New South Wales, district, the Bulli Pass near Sydney, the Jenolan Caves, the great mining region of Broken Hill, New South Wales, the Cambrian and Permian glacial deposits near Adelaide, several important geological and petrographical localities within 100 miles of Melbourne, the Mt. Lyell copper mine and other localities in Tasmania, and in New Zealand the volcanic region at Auckland, Rotorua and the

DEPARTMENT OF GEOLOGY AND INVERTEBRATE PALAEONTOLOGY

ENTRANCE TO THE JENOLAN CAVES, AUSTRALIA

This great natural archway contains the entrances to the Jenolan Caves, New South Wales, which are famous the world over for their wealth in beautiful stalactites and stalagmites. The rock is Silurian limestone

geyser region of the North Island, and the Buller Gorge, the Rotira Gorge and Arthurs Pass, the glacier region of Mt. Cook, the Crown Range and Lake Wakatipu of the South Island.

A feature of this Australia-New Zealand expedition is the securing of photographs and other data which will be useful in the making of geological relief models of Mt. Lyell and vicinity in Tasmania, Broken Hill in New South Wales, and of Tarawera (volcano) and Lake Rotomahana, the Otira Gorge and Arthurs Pass, Mt. Cook and the neighboring glacier region, the Crown Range and its interesting terraces, Lake Wakatipu, and the fjord region centering about Milford Sound in New Zealand. New Zealand is a most interesting country for concrete examples illustrating the facts and theories of geomorphology.

The Associate Curator, assisted by Messrs. P. B. Hill and E. J. Foyles, spent about a month's time at intervals during the season collecting and making manuscript and photographic notes on Pleistocene deposits—principally on the varve clays of Little Ferry, N. J.

Publications and Research

The Curator prepared an address on the "Geology of Northwest Greenland and its Relation to the Fauna, Flora and People of the Region," which he delivered before the Palæontology Club of Yale University. He gave an illustrated address before the Pan-Pacific Science Congress in Melbourne on "The Third Asiatic Expedition of the American Museum of Natural History," using data which had been supplied to him by President Osborn. He read a paper on the "Geology of the Lesser Antilles" before the same Congress at the Sydney session. Dr. Hovey prepared two articles for *Natural History:* "Earthquakes" and "Rotorua and the Geyser Region of New Zealand." He prepared and presented an address on the "Geyser Region of New Zealand" before the Geological Society of America at its annual meeting in December.

Associate Curator Reeds published three articles in *Natural History:* "Seasonal Records of Geologic Time," "The Japanese Earthquake Explained," and a note on the seismograph record of the great Chilean earthquake of November 20, 1923. Dr. Reeds published in newspapers and other periodicals three articles on earthquakes and one on the Post-Glacial clays at Little Ferry,

N. J. He prepared an article on "Post-Glacial Clay at Little Ferry, N. J.," which he read at the December meeting of the Geological Society of America and which awaits publication.

Laboratory studies on the Hunton series of invertebrate fossils from Oklahoma and the Post-Glacial clay of Little Ferry, N. J., were carried forward by Associate Curator Reeds with the assistance of Messrs. Foyles and Hill and Miss Marks.

Among the accessions to the Department received during the year, mention may be made of the following:

Accessions

By purchase, a mass in two parts, together weighing 50 pounds, 9 ounces (22,935 grams) and forming practically the entire fall of the Norfolk, Va., iron meteorite, said to have been seen to fall in September, 1907. This specimen awaits thorough investigation, but, if the statement regarding its fall is correct, it is the second in point of size known and is much the largest in this country, of iron meteorites which have been seen to fall. Eight other meteorites have been found in Virginia, seven of which are from the central and western part of the State; the eighth is a stone from near Richmond. In addition to Norfolk, there have been received a 30-gram fragment of Magura (Hungary) from the Nameczeck collection; a 178-gram mass of Stalldalen (Sweden) by purchase; and the following from Australia by gift or exchange with the Mining and Geological Museum of Sydney, Dr. G. W. Card, Director; a 93-gram fragment of Warialda, a 131-gram slice of Delegate, two specimens weighing together 129 grams of Molong, seven bits totaling 20 grams of Mt. Dyrring, and a large mass of contorted Devonian phyllite. A large and very symmetrical fossil seed-fern (*Eospermatopteris*) stump, from the Devonian beds at Gilboa, N. Y., was received as a gift from the Board of Water Supply of New York City. An important collection of invertebrate fossils from many geological horizons was received by purchase from the estate of the late Miss A. Elizabeth Kurtz, of East Stroudsburg, Pa. A series of rocks and ores from famous localities in Australia and Tasmania and about 500 photographic negatives from Australia, New Zealand, Fiji, Rarotonga and Tahiti were secured by the Curator; and a series of Post-glacial varve clays was obtained by Associate Curator Reeds at Little Ferry, N. J., and elsewhere.

Cataloguing, Labeling, Laboratory Work

The 69 accessions of rocks, fossils and meteorites have been properly accessioned and numbered. Catalogue numbers have been placed upon about 500 rocks and meteorites, and the corresponding catalogue entries made. Name, horizon and locality cards in the palæontological catalogue have been distributed, and 6,260 additional cards have been prepared; 13,318 specimens, mostly of the E. D. Cope Collection, have been ticketed. Much progress has been made in the labeling of the Hunton Collection of fossils, and in preparing charts and profiles of Arbuckle Mountain geology, also in the preparation of maps, charts and profiles of varve clays. The cores of the models of Pikes Peak and vicinity and of Van Horn, Texas, were finished early in the year, and those of the Potomac River near Pawpaw, W. Va., the Yellowstone Park and the Niagara Falls region have been prepared. More than 600 expedition photographs have been catalogued and arranged in albums.

Requests for information by mail and in person have, as usual, been numerous and time-consuming. They have occupied much of the attention of various members of the Department, but they have been cheerfully responded to, and welcomed as indicating the interest of the public and students in geology, invertebrate palæontology and meteorites.

Secretary Work

Associate Curator Reeds served as Secretary of the Museum Faculty and of the Staff of Division I. Mr. Foyles acted as Secretary of the Department Staff.

Scientific Societies and Conventions

Curator Hovey represented the American Museum at the Charleston, S. C., meeting of the American Association of Museums in April; at the meeting of the Pan-Pacific Science Congress in Melbourne and Sydney, Australia, in August and September, and at the Joseph Leidy Centenary of the Academy of Natural Sciences of Philadelphia in December. He also served as a Vice-President of the Explorers Club. Curator Hovey and Associate Curator Reeds attended the Annual Meeting of the Geological Society of America in Washington, D. C., in December, where the former likewise was on the Council of the Society.

MINERALS AND GEMS

HERBERT P. WHITLOCK, Curator

The work of preparing and installing introductory and explanatory exhibits in the cases at the right of the entrance to the Morgan Memorial Hall has progressed to the extent of the completion and placing on exhibition of a series of structure models demonstrating the formation of crystals of the seven systems from a mechanical point of view. In thus presenting to the public the newer conception of the significance of crystallization as distinct from the more complicated and abstract mathematical treatment of crystallography, this series of models constitutes a fitting introduction to the wealth of examples of crystallized minerals contained in the Bement Collection.

Introductory Series

The series of Krantz wooden models of crystals of minerals has been completed by the addition of 144 models chosen to illustrate the crystallization of important minerals not covered by the series as previously installed. These have been colored to emphasize the symmetry of the systems and groups to which they belong and displayed with temporary labels while the work of printing permanent labels is in progress. Small models constructed of cardboard and glass rods to demonstrate the symmetry of the groups of crystals have been inserted in this series.

The printed labels for the series of specimens occupying the wall cases are now in place, as well as the group labels for the 28 cases which constitute the units of this key collection. Group labels for the 30 cases of the Gem Mineral Collection are being printed. These average about 200 words each and describe each group of gem stones from the point of view of its application to jewelry and decoration rather than from its mineralogical characters.

Labeling

Special Exhibits

One of the small, flat cases situated in the middle of the Hall opposite the Morgan Memorial Tablet has been set aside for the display of small, temporary exhibits of popular interest. During the convention of the American Bankers Association, an exhibit showing the "Evolution of a Copper Cent" was installed in this case and kept on exhibition for several weeks. A small, temporary exhibit consisting of the gem stones used in making the colored plate of gems for the child's Book of Knowledge has also been installed in this case.

Educational Work

During the months of February and March, the Curator gave a series of free popular lectures on Gems and Gem Minerals at New York University. It was the purpose of these informal talks on gems to interest not only the general public but especially those who handle and deal in precious stones in some of the little-known facts concerning them. A small shelf of reference books on minerals and gems has been placed on the reading table in the Morgan Memorial Hall, and may be consulted by applying to the attendant. In order to bring the public in closer touch with the mineral collection, the Curator has inaugurated the practice of being present in the Morgan Hall on Saturday mornings from 9 to 12, for the purpose of answering questions and supplying information regarding the collections.

Accessions

A considerable number of specimens have been added to both the General Mineral Collection and the Gem Collection during the past year. The following species new to the collection have been acquired through gift and exchange:

TANTALUM—A rare element from the Urals, acquired through the Bruce Fund.

HAUCHECORNITE—A rare nickel sulphide and antimonide, acquired through the Bruce Fund.

STICHTITE—A complex hydrated carbonate of magnesia, presented by David Goodman.

PHOSPHOPHYLLITE—A rare phosphate of iron with sulphate of aluminium, acquired through the Bruce Fund.

ARGENTOJAROSITE—A new (1923) hydrated sulphate of iron with silver, presented by Mr. E. P. Mathewson, and through the Bruce Fund.

PLUMBO-ARGENTOJAROSITE—A new (1923) hydrated sulphate corresponding to the preceding species with the addition of lead, acquired through the Bruce Fund.

PARSONSITE—A new (1923) radioactive phosphate from the Katanga Region, Belgian Congo, acquired through the Buttgenbach exchange.

CORNETITE—A new hydrated copper phosphate from the Katanga Region, acquired through the Buttgenbach exchange.

Among the notable gifts to the Mineral Collection should also be included finely crystallized Wulfenite and Vanadinite from a new Morocco locality, presented by Professor Alfred Lacroix, a handsome Descloizite from Southwest Africa, and a fine specimen of the rare mineral Reddingite from a new locality in Maine, both acquired through the Bruce Fund.

The Gem Collection has received several notable additions. Through the gift of Mr. J. P. Morgan have been acquired a number of typical gem stones used in making the colored plate published in the child's Book of Knowledge. Through the gift of Mrs. Henry Fairfield Osborn, the collection has received a series of Carnelian Scarabs and Onyx and Shell Cameos, one of the latter being a signed example by Morelli. Two handsome cut stones of Kunzite were presented by Dr. George F. Kunz. A fine example of Russian lapidary work, consisting of a small casket inlaid with Siberian ornamented stones, was purchased through the Bruce Fund, also a large gem crystal of Siberian Topaz in the matrix. Mr. A. Grosjean, of Peking, has presented through Mrs. Osborn a most unique series of antique Chinese glass jewels recovered from graves of the Han and Tang dynasties in Shensi and Honan Provinces. These constitute an important addition to the case devoted to the antique use of gems, and serve well to round out a series already rich in necklace beads of several periods and countries.

DEPARTMENT OF VERTEBRATE PALAEONTOLOGY

DINOSAUR EGGS FROM MONGOLIA

Collected by the Third Asiatic Expedition

EXTINCT VERTEBRATES

HENRY FAIRFIELD OSBORN, Honorary Curator
W. D. MATTHEW, Curator

The work of the department during the year was in large part concentrated on this field. Of the field staff, Associate Curator Granger, Messrs. Peter Kaisen and George Olsen were detailed for field work, the first during the whole year, the two others for eight months. In the laboratory, Otto Falkenbach spent the entire year, the rest of the staff from two to six months upon preparation of Mongolian specimens. Curator Matthew spent about three-fourths of the year upon cataloguing, labeling and arranging these collections and upon research and publicity work in connection with them.

Third Asiatic Expedition: Mongolia and China

These expenditures of time are justified by the great success of the exploration. A series of rich, new and remarkable fossil faunas was secured from the Cretaceous and older Tertiary formations of a part of the world hitherto unknown to palæontology. Among the most notable finds were:

First, the eggs and young of dinosaurs: twenty-five eggs, over seventy skulls and twelve complete skeletons of dinosaurs, of all ages from newly hatched to full-grown, mostly of primitive ceratopsians, ancestors of the great horned dinosaurs which are found in the American Upper Cretaceous formations. These are of importance in several ways. They settle the question as to whether dinosaurs laid eggs and what the eggs were like. They provide data for reconstructing the life history and habits of these extinct reptiles and show where the great horned dinosaurs came from. Incidentally, they prove a land connection during Middle Cretaceous times between Asia and North America.

Second, we have a very large series of jaws, limbs, parts of skeletons, etc., of dinosaurs of several different kinds from a Cretaceous formation in Eastern Mongolia. These will supplement the first discovery, giving a fairly extended knowledge of the land animals of Cretaceous central Asia.

Third, a fine series of early Tertiary mammals of several kinds, including fine specimens of Titanotheres, a gigantic primitive carnivore or creodont, and smaller creodonts and ungulates. These represent a very striking fauna, or rather series of faunas, remarkably different as a whole from the contemporary faunas either of America or Europe, yet containing some rather nearly related forms.

Finally, we have from South China a second large collection of Pleistocene fossil mammals, including fine skulls and jaws of the giant fossil tapir, almost equal to a rhinoceros in size, a variety of small carnivora and other excellent specimens representing the great and diversified fauna of the forest regions of central and southeastern Asia at the beginning of the Age of Man. The rhinoceroses, stegodons, giant tapirs, chalicotheres and other large animals in this primæval Chinese fauna have either become wholly extinct or have survived only in the tropical jungles of the Orient; the smaller animals have found refuge in the mountainous districts, where many of them still survive.

India, Burma and Greece

South of the great mountain backbone that separates the Mediterranean and Indian regions from the rest of Europe and Asia lies a great zoölogical province whose animals are today and have been in the past distinct from those of central and northern Asia and Europe. The geological history of these Mediterranean and Oriental faunas has been known principally from certain rich fossil fields in northwestern India and in Greece, explored by British, French and German scientists many years ago. Such scanty records as had been discovered, bearing upon the Ancestry of Man, had come chiefly from this region, and many scientists believed that this was the centre from which he spread all over the world. A reexploration of these classic localities and the attempt to discover new ones would enable us to make a new and more thorough study of the past animal life of the Oriental region and compare it with the life-history of central Asia. This project was financed by Mrs. Henry Clay Frick and committed to the expert hands of Associate Curator Barnum Brown. Mr. Brown secured in 1922-3 a magnificent collection from the Siwalik Hills in northwest India, including a series of skulls of fossil elephants, mastodons, stegodons, hippopotami, camels, horses, giraffes and various

antelopes, etc., equaling in one year the great collections gathered since 1840 in London or Calcutta. In Burma he obtained a small but valuable collection that gives some light upon the older fauna that inhabited the region in the earlier Tertiary. He has now commenced explorations in the island of Samos and investigated a number of other promising localities in Greece and Asia Minor. Until the Indian collections have been prepared and studied it is not possible to forecast the scientific results of his work, but there is no question that it will provide an exhibit of Indian fossil mammals equal to those in London or Calcutta, with every prospect of securing an equally fine exhibition series from Greece, Asia Minor, Persia and Baluchistan.

Nebraska

Mr. Thomson continued work at the Snake Creek and Agate fossil quarries in western Nebraska and secured a valuable series of skulls of various animals, particularly the so-called Bear-dogs, true dogs, three-toed horses, large and small camels, etc. One most welcome addition is a nearly complete skeleton of a small Primitive Deer, a little animal about the size of the modern chevrotain or "mouse-deer" of India, the earliest of the higher ruminants to appear in North America and ancestral to the true deer, perhaps also to antelopes, sheep and cattle. These specimens are of value in research upon Tertiary mammals and will enable us to improve the exhibits of fossil horses and camels and to arrange series illustrating the Evolution of the Dog and the Evolution of the Deer.

California

Mr. Childs Frick has for some years past been conducting very energetic and successful researches upon certain Pliocene formations in southern California, and has secured a remarkably large and varied collection of fossil mammals of that age. These collections, obtained and prepared at his personal cost, are under investigation by him at the Museum and are yielding important and interesting results.

Ecuador

Mr. H. E. Anthony, on his last expedition to Ecuador, spent a part of his time collecting fossil mammals in the Punin region near Riobamba. Although time permitted only a cursory reconnaissance of a rather extensive region, he obtained a very good series of Pleistocene mammals, mostly camels and horses, and a human skull of somewhat doubtful association with these extinct animals.

Preparation and Exhibition

The most important exhibit completed during the year was the skeleton of Triceratops, the Three-horned Dinosaur. The posing of this animal involved a long and difficult study of the mechanism and adaptations of the skeleton, and a series of trial poses were necessary to settle some of its problems. Especial credit is due to Mr. Charles Lang for this mount, to which he devoted not merely technical skill, but a great deal of study and observation of modern reptiles, and infinite patience in experiment in order to gain a satisfactory result.

The preparation staff was reduced by the absence in the field of Messrs. Kaisen and Olsen during most of the year, and of Messrs. Thomson and Sorensen for nearly five months. The time of the depleted staff was devoted chiefly to preparation of Mongolian fossils and Indian Proboscidea. The skull and jaws of *Baluchitherium,* a complete skeleton of the small dinosaur *Psittacosaurus,* four skulls of *Protoceratops,* skull of a gigantic Creodont (new) and skulls and jaws of *Protitanotherium* and *Cadurcotherium,* all from Mongolia, were completed, and the skeleton of *Protiguanodon* and skulls of three small dinosaurs from Mongolia, five proboscidean skulls and several other specimens from India were partly prepared. The *Psittacosaurus* skeleton, buried in a steel-hard matrix, presented a difficult problem in preparation, which was successfully handled by Mr. Otto Falkenbach. Mr. Thomson also prepared a number of the more important specimens secured by his party in Nebraska last summer.

The cataloguing of the Snake Creek collections of 1921 and 1922, of the Chinese collection of 1921-2, the Mongolian collections of 1922 and the Indian collections of 1922 has been completed by Dr. Matthew and Dr. Mook, with assistance of Mr. John Germann.

Casts of the *Baluchitherium* skull were prepared and sent to the Yale, National and California University museums in America, to the Cambridge, London and Petrograd museums in Europe.

Illustration

The time of John Germann was occupied chiefly with cataloguing, labeling and placard-making, but a few drawings of fossil crocodilia were made by him, under Dr. Mook's direction. Miss Roigneau's time, half under this department, was devoted to coloring a series of casts showing

the evolution of the skull in the vertebrata. Mrs. Sterling's time was mostly given to President Osborn's researches; two weeks were devoted to drawings of Mongolian fossil mammals for articles in *Novitates* by Dr. Matthew. Mrs. Fulda made during the year two hundred and sixty-eight photographs, and executed a series of restorations of extinct animals.

Researches Published or in Press

A series of eleven preliminary notices has been published in *American Museum Novitates,* dealing with dinosaurs and Tertiary mammals from Mongolia: four by Professor Henry Fairfield Osborn, six by Dr. W. D. Matthew and Mr. Walter Granger, and one by Dr. W. K. Gregory and Mr. Granger. An article in the American Museum *Bulletin,* by Dr. Matthew and Mr. Granger, describes new fossil mammals from the supposed Pliocene of Sze-Chuan province in China. In a more extended article in the *Bulletin,* Dr. Matthew describes collections made in the Snake Creek quarries, 1918-1922, and summarizes our present knowledge of the fauna.

The Monograph of the Titanotheriidæ, by Professor Henry Fairfield Osborn (one of the United States Geological Survey Monographs), is still in press, but will shortly be published.

Two articles upon American Cretaceous dinosaurs have been published during the year in *American Museum Novitates.* One by Dr. Matthew and Mr. Barnum Brown gives preliminary notices of skeletons and skulls of a series of carnivorous dinosaurs from the Cretaceous of Alberta placed on exhibition during the past five years. A second, by Professor Henry Fairfield Osborn, describes the skull of *Pentaceratops,* a new horned dinosaur from the Cretaceous of New Mexico.

Three articles on fossil birds have been published in the *Bulletin:* two by Mr. Alexander Wetmore upon bird remains from the caves of Porto Rico and upon fossil birds from the Tertiary of Nebraska. In the other, by Professor T. D. A. Cockerell, certain fossils discovered by Dr. Cockerell in the Eocene Green River formation are ascribed to the great Eocene ground bird *Diatryma.*

In addition, two short articles on Crocodilia have been published by Dr. Charles C. Mook.

Researches in Progress

Professor Osborn has continued his researches upon the extinct Proboscidea and has in preparation a systematic type revision of the entire order, with descriptions of many new genera, species and specimens in the American Museum and other collections.

Researches upon the fossil collections from Mongolia and China, by Professor Osborn, Drs. Gregory, Matthew, Mook, Noble and Professor Cockerell, are in progress and will be continued during the coming year, with the aid of other specialists in various groups.

Researches upon the collections from the Siwalik formation have been in part arranged and some preliminary work upon the primates done by Drs. Gregory and Hellman.

Some progress has been made upon a revision of the fossil Camelidæ, undertaken by Dr. Matthew nine years ago but not yet completed.

Mr. Childs Frick has been engaged during the year upon an extended comparative study of the Pliocene faunas obtained by him in the Eden district and other areas of southern California and upon American Pleistocene horses, for which he has assembled all the important material, loaned through the courtesy of various scientific institutions and individuals.

Accessions

In addition to the large accessions received through field expeditions as reported above, a number of valuable specimens and casts have been received in exchange or as gifts. A series of originals and casts of Australian fossil vertebrates received in exchange from the Queensland, Sydney (Mining and Geological), South Australian and Victoria Museums provide an excellent representation of the extinct fauna of the Island Continent. A number of casts of type specimens of Proboscidea and Rhinoceroses were received from the British Museum of Natural History and the Cambridge Zoological Museum. The cast of a fine skeleton of a Cretaceous Snake from the Vienna Museum, and a series of cave fossils from the National Museum at Budapest were received. We are also indebted to Mr. H. L. Mead, Mr. W. W. Holmes, and Mr. C. R. Halter for Florida fossils. A series of casts of fossil human remains, purchased from various sources, largely through the good offices of Professor J. H. McGregor, is noted in the report of the Department of Comparative Anatomy.

LOWER INVERTEBRATES

Roy Waldo Miner, Curator

There have been no changes in the scientific and office staff of this department during the past year. In the preparation staff the only change has been the resignation of Mr. Arnold Olsen and the appointment in his place of Dr. George H. Childs, of the University of Minnesota. Dr. Childs has shown himself an artist of marked ability, and through his scientific training this faculty will be of unusual value to the department.

Changes in Staff

The Rotifer Group has reached an advanced stage and is expected to be placed on exhibition during 1924. The remarkable glass modeling of Mr. Herman Mueller in this group is worthy of special note, both for its beauty and for the ingenuity with which the intricate problems of technique have been solved.

Exhibition

The large exhibit showing the evolution and relationships of the chief groups of the animal kingdom has made rapid progress. This has been due to the work of Mr. Chris E. Olsen and Dr. Childs, under the immediate direction of the Curator. This will also be placed on exhibition during the coming year.

The rare shell *Conus gloria-maris* has been mounted on a special pedestal, for public view.

A number of carefully executed index labels has been added to the groups and other exhibits in the Darwin Hall and a large series has been colored and prepared for mounting with the individual models.

Special attention has been given to the preparation of a sketch model showing the west end of the Hall of Ocean Life and the method of installing the proposed Coral Reef Group. This model is being constructed to scale by Mr. C. E. Olsen with faithful attention to detail, and when completed will be placed on exhibition during the preparation of the large group. The latter, when finished, will represent, life size, a thirty-foot section of a Baha-

man coral reef and will be so arranged that an above-water view of the coral lagoon and its surroundings may be seen from the gallery floor of the Hall, while in the foreground the reef itself will be visible through a glass representing the water surface. A submarine view of the same reef may be gained by descending a staircase and viewing the exhibit from beneath the gallery, as if the spectator stood upon the sea bottom. An expedition is now being planned to obtain the necessary studies for this group.

A series of six paintings, by the famous undersea artist, Mr. Zarh H. Pritchard, has been donated to the Museum and has been placed on temporary exhibition in the Darwin Hall. These paintings are undersea studies of living coral reefs made by Mr. Pritchard in the lagoons of Tahiti. Mr. Pritchard obtained sketches for these by descending to the sea bottom in a diver's suit and painting from life on waterproofed canvas. They were given to the Museum by Mr. Arthur Curtiss James, Mrs. William K. Vanderbilt, Mr. Paul M. Warburg and Miss Bettina Warburg and others. It is hoped that additional donations will bring the series to twelve, as space for that number has been arranged in the new Hall of Ocean Life, where they will form an important feature of the oceanic exhibit.

Educational Work

The use of the Darwin Hall by classes of public and private school pupils, as well as by students from various colleges, has been most gratifying. During the past year 22,537 students visited the Hall, an increase of more than 4,000 over the number for the preceding year. These came in 600 classes from 307 different institutions. Over 19,000 of them were public school pupils; 575 were college students. Mr. Robert Hazard has continued his usual effective work as docent.

Field Work

Four field trips have been made during the past year, all in connection with future exhibits planned for the Darwin Hall and the new Hall of Ocean Life.

Curator Miner, accompanied by Mr. C. E. Olsen, spent a month during July and August investigating the *Terebratulina* beds and the oceanic shelf of Mount Desert Island, to obtain data for a group illustrating the fauna and flora of the sea bottom at a depth of twenty to thirty fathoms, centering about the ancient group of brachiopods. This is an associa-

tion not covered in our series of invertebrate habitat groups. When completed, the group will show a portion of a sunken reef, on which the sponges, sea stars, mollusks and anemones associated with the brachiopods at this depth will form the setting. Of special interest is a large, spiny sea star *Solaster papposa* with twelve rays brilliantly colored in red and white. Much of the success of the expedition was due to the cordial coöperation of Director Ulric Dahlgren of the Mount Desert Biological Laboratory, the headquarters of the expedition. Every facility was placed at our disposal by Dr. Dahlgren.

Four weeks in the latter part of August and the first part of September were spent by the Curator at the Marine Biological Laboratory at Woods Hole, Massachusetts, where, with the assistance of Mr. M. M. Jamieson, artist, careful and elaborate studies were made for three new models for the annulate alcove in the Darwin Hall, covering the genera *Podarke, Amphitrite* and *Clymenella.* These interesting forms show not only typical phases of specialization among the annulates, but because of the beauty of their coloration, will make most effective exhibits.

A trip to the Bahama Islands was made by the Curator during December in the interests of a new coral reef group for the Hall of Ocean Life. Through the courtesy of Mr. J. E. Williamson of Nassau, inventor of the famous undersea tube, the Curator was enabled to descend to the sea bottom and view the submarine world through a plate glass window an inch and a half thick. The Andros Islands, across the "Tongue of the Ocean," were visited through the cordial coöperation of Mr. C. F. Forsyth and of his nephew, Mr. E. W. Forsyth, the Commissioner of Southern Andros. Here a remarkable series of coral reefs, extending along the eastern shore of the islands, was examined, as well as many of the coral clumps or shoals which dot the mile-wide lagoon enclosed by the barrier reef. Many of these were examined in a preliminary way, while excellent sites for camping and safe anchorage were found, to be utilized in future work in the neighborhood of Mangrove Cay, the locality selected for active work for the group. The Governor of Andros, Sir Harry Cordeaux, and the Colonial Secretary, the Hon. P. W. Armbrister, have cordially consented to facilitate the work, and it is hoped that during the coming year an expedition may be equipped to make

careful sketches and photographs from life, showing details of the reef necessary for reproduction in the proposed group. It is also hoped that the Williamson submarine tube and diving apparatus may be utilized in securing these data.

Additional field studies were made in connection with the Rotifer Group, in southern New Jersey, and at Mount Desert Island, with the coöperation and efficient assistance of Research Associate Frank J. Myers. Mr. Myers also instituted a biological survey of the rotifers of Mount Desert Island, and during his two weeks' visit listed 250 species of rotifers, of which fifteen are new to science. This will form the subject matter for a paper to be published in the near future. The work was conducted by Mr. Myers entirely at his own expense.

Scientific Collections

Investigations carried on in the laboratory of this department include studies by Dr. W. G. Van Name of the tropical American isopods and ascidians. In the case of the isopods, additional material from British Guiana was received from Mr. William Beebe, as well as from Mr. Herbert Lang. The Beebe collections were made the subject of a separate paper which was completed and turned over to the New York Zoological Society for publication in connection with Mr. Beebe's work. Substantial progress has been made on the remaining British Guiana material, as also upon a bibliography and catalogue of the land isopods of tropical South America. A report on the isopods of the Galapagos Islands, based on a collection made by Mr. Beebe, has also been initiated. Dr. Van Name has completed a report on the ascidians collected at Curacao by Prof. Van der Horst of Amsterdam, Holland, which is now in press and will be published by the zoological laboratory there. In connection with these activities, a considerable series of identified specimens of isopods and ascidians, including many types and co-types, have been added to our collections.

Mrs. Ida S. Oldroyd resumed her efficient work on the shell collection for two months during the latter part of the year. During this time she finished revising the nomenclature of the marine bivalves and made considerable progress on the land mollusks. She has also identified a number of recent accessions and arranged for an exchange of valuable material belonging to Stanford University for a series of our duplicates.

Coöperation with Peabody Museum of Yale

An important arrangement has been made with the Peabody Museum of Yale University to examine and identify its extensive collections of marine invertebrates, in return for which the American Museum is to receive a large series of duplicates. Identified specimens of over sixty species of echinoderms have already been received and a large collection of Macrura, comprising 922 lots, is undergoing examination by Dr. Van Name. As the Yale collection consists largely of material collected by the United States Fish Commission during its dredging expeditions, it is mostly of a kind which this Museum could not obtain without great expense and the initiation of deep-sea work in sea-going vessels. The Yale University authorities have shown great generosity and an excellent spirit of coöperation in connection with these arrangements, and as the collection is exceedingly large, comprising all the main groups of invertebrates, every effort will be made to take advantage of it as a most exceptional opportunity.

Cataloguing and Care of Collections

Joseph F. Connolly has catalogued, during the past year, 2,426 specimens, including 485 species, of which 302 are new to our collections. Among these are 157 types and paratypes. He has also gone over the entire alcoholic collection to supply preservative where necessary. In the Shell Hall, Mr. Edward H. Gugelman made 4,317 additional record cards during the year 1923. The general invertebrates now comprise over 64,000 catalogued specimens, including over 5,000 species. The mollusks number about 169,000 specimens, representing over 20,000 species, making a total for the collections of the Department of Lower Invertebrates of 233,000 catalogued specimens, representing over 25,000 species. In addition to these, there is a large series of accessions which are unidentified or in process of identification.

Research and Publication

As mentioned above, Doctor Van Name has been engaged during 1923 on several important papers on the isopods and ascidians, two of which, namely, those on the Beebe collection and the Van der Horst collection, have been completed for publication.

Dr. Miner has continued his work on the myriapod bibliography and synonymy. The bibliography has advanced rapidly and will be ready for publication during the coming year. Work on the synonymy has ceased until the bibliography is finished.

Dr. Miner has completed his paper on "The Pectoral Limb of *Eryops* and Other Primitive Tetrapods," and it is now undergoing final editorial revision. He published, in joint authorship with Professor W. K. Gregory and Dr. G. K. Noble, a paper entitled "The Carpus of *Eryops* and the Structure of the Primitive Chiropterygium." The investigations on which both these papers were based, were carried on in collaboration with the Department of Comparative Anatomy.

Research Associate A. L. Treadwell is working on collections from the Barbados made by the University of Iowa, from which a series of duplicates will be presented to this Museum during the coming year. He is also working on collections of the United States Bureau of Fisheries made in Chesapeake Bay and other specimens in the United States National Museum, as well as upon various accessions sent to him by this department. His report, *"Dasychonopsis arenosa,* a New Species of Polychætous Annelid from Porto Rico," is in press.

Research Associate Frank J. Myers has completed for press a second section of the "North American Rotifers," in conjunction with Dr. H. K. Harring of the United States National Museum, the types of which have been presented to this Museum. He has also continued his valuable series of donations to the Museum's rotifer collections, which now, through his generosity, takes rank as the largest in the world.

Research Associate Horace W. Stunkard is continuing his work on the Congo collection of parasitic worms. Work upon this material will occupy him during the coming year. During the year Dr. Stunkard published in the Museum *Bulletin* his "Studies on North American Blood Flukes."

Dr. Hubert L. Clark's paper on the Albatross echinoderm collections was published in the *Bulletin* early in the year.

A paper entitled "The Brachyuran Crabs Collected by the United States Fisheries Steamer 'Albatross' in 1911, Chiefly on the West Coast of Mexico," by Miss Mary J. Rathbun, was published in the *Bulletin.*

A paper by Dr. W. L. Schmitt on "The Macruran, Anomuran and Stomatopod Crustacea, collected by the American Museum Congo Expedition, 1909-1915," is in the hands of the editor.

Dr. Paul Bartsch has completed the first volume on the mollusks of the Albatross Expedition.

Dr. H. A. Pilsbry has practically completed his work on the Congo fresh-water and marine mollusks.

Professor Ralph W. Chamberlin has progressed with his work on the myriapods of the Congo region, which he has promised to send us within a few weeks.

Professor C. B. Wilson published two papers on parasitic copepods in *Novitates* during 1923.

A large number of valuable and interesting accessions have been received during the year, of which the most important gifts are:

Important Acquisitions

A large collection of microscopic mounts of the Protozoa belonging to the family Opalinidae, including 107 paratypes, from Dr. M. M. Metcalf; a collection of mounted and identified rotifers and cladocerans, including 30 types, from Mr. F. J. Myers; a natural group in which sponges, gorgonians and *Spondylus* shells are growing together, from the Parsons Ammonia Company; a collection of identified annulates, including 18 types, from Samoa and the Fiji Islands, from Dr. A. L. Treadwell; a large collection of invertebrates collected in British Guiana by Mr. Herbert Lang; a large collection of sponges, corals, shells, and other invertebrates from the West Indies, Florida and the Bahamas, from Mr. A. D. Gabay; a series of invertebrates from British Guiana, from Mr. William Beebe; crustaceans from Lower California and Mexico, from Professor A. L. Herrera.

The most important accessions by exchange were: A collection of named echinoderms from the Peabody Museum of Yale University; 1,700 named shells (233 species) from the Pacific Coast, from Mrs. Ida S. Oldroyd; Australian land and marine shells and other invertebrates from Mr. Charles Barrett, ascidians and other invertebrates from Curacao, from Professor C. F. Van der Horst.

Acquisitions through Museum collectors were: Invertebrates collected in the South Sea Islands by the Whitney South Sea Expedition; corals and shells of Australia, collected by Dr. E. O. Hovey.

INSECTS AND SPIDERS

FRANK E. LUTZ, Curator

Field Work

The principal field work on insects during 1923 was particularly interesting because it dealt with a phase of insect life that, prior to our preliminary studies in 1922, had not been investigated. Curator Lutz demonstrated that insect vision includes ultraviolet color or colors, invisible to man, and also that many, but not all, flowers are ultraviolet and may even have ultraviolet patterns on their petals. These results necessitate a complete restudy of the meaning, if any, of floral colors.

In the early spring, Curator Lutz and Research Associate Herbert F. Schwarz made a short trip to the southern everglades of Florida and especially to Royal Palm State Park. Their chief object was to acquire further knowledge concerning the faunal relations between Florida and Cuba. In November, Curator Lutz spent a few weeks in Panama obtaining nests and other material in connection with his studies on the tropical "stingless honeybees."

Exhibition

Considerable progress has been made with the groups planned to illustrate various activities of insects. One, that of the "Baltimore" butterfly, has already been put on exhibition. Its central feature is the winter shelter which is made by the young caterpillars, brothers and sisters coöperating in the task and sharing in the result. A group that is nearly completed is devoted to the plebeian cabbage butterfly. Another is planned to illustrate the curious habit which certain lady-beetles have of congregating on mountain-tops in large numbers; and so on.

Boy Scouts

Somewhat akin to exhibition work and placed in the exhibition hall is a rather novel feature. It is the space which has been set aside as headquarters for Boy Scouts studying insects. Here they are provided with tables, cases, instruments, and other facilities, conveniently located with respect to the exhibitions and the collection of in-

DEPARTMENT OF ENTOMOLOGY

BALTIMORE BUTTERFLY GROUP

The first of a new series of Insect Habitat Groups

sects that is under the direct care of the New York Entomological Society. Mr. B. T. B. Hyde supervises the work of these boys.

Publications

Publications on insects included "Two New Species of West Indian Cleridæ (Coleoptera)," by A. B. Wolcott; "Notes on West Indian Lycidæ and Lampyridæ (Coleoptera), with Description of New Forms," also "Notes on West Indian Lampyridæ and Cantharidæ (Coleoptera) with Descriptions of New Forms," by Andrew J. Mutchler; "Two Nocturnal Bees and a Minute *Perdita*," by T. D. A. Cockerell; "A New Genus and Species of Staphylinidæ Parasitic on a South American Opossum," by Howard Notman; "Chinese Ants Collected by Professor S. F. Light and Professor A. P. Jacot," and "The Occurrence of Winged Females in the Ant Genus *Leptogenys* Roger, with Descriptions of New Species," by Wm. M. Wheeler; "A Preliminary Report on the Hemiptera-Heteroptera of Porto Rico Collected by the American Museum of Natural History," by H. G. Barber; "New Species and Notes on Synonymy and Distribution of Muscidæ Acalypteratæ (Diptera)," by A. H. Sturtevant; and "A New *Dasymutilla* from Arizona," by J. C. Bradley and J. Bequaert. A paper now in press on "Apparently Non-selective Characters and Combinations of Characters, including a Study of Ultraviolet in Relation to the Flower-visiting Habits of Insects," by Frank E. Lutz, was awarded the A. Cressy Morrison prize by the New York Academy of Sciences.

Study Collections

The study collections have continued to grow and are in good condition. The principal additions, apart from the results of field work, have been the E. L. Dickerson Collection, a gift from his widow; about 2,600 Lepidoptera given by Mr. Samuel E. Cassino; about 2,600 Lepidoptera from Mr. Fred Oppenheimer; and about 6,000 specimens purchased from various sources.

RECENT AND EXTINCT FISHES

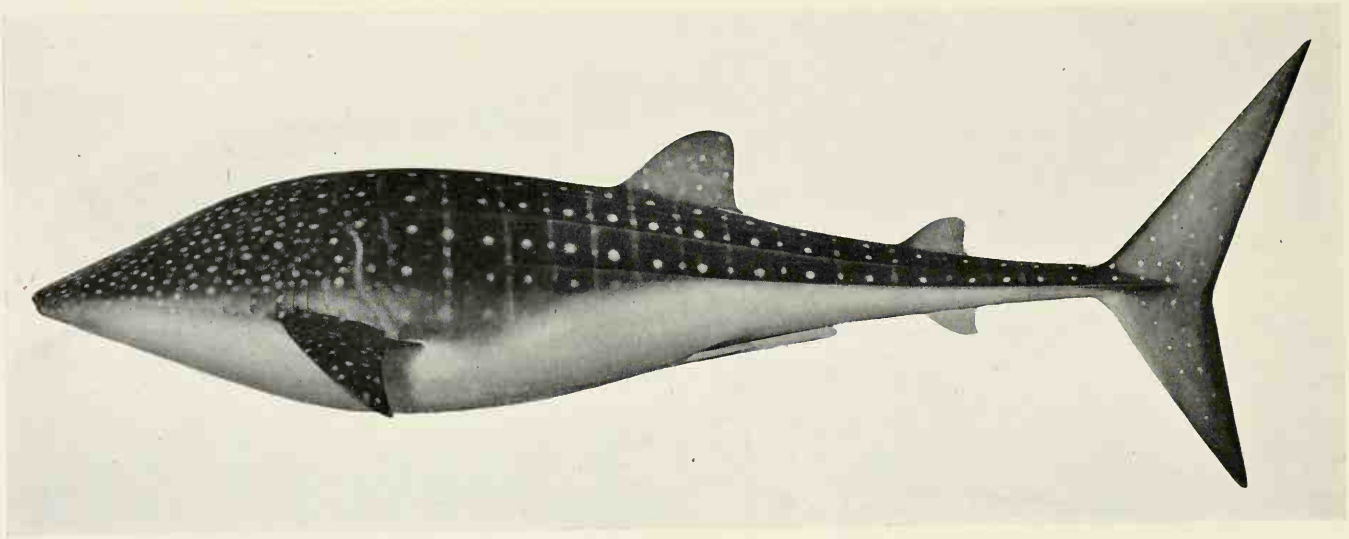
BASHFORD DEAN, Honorary Curator
JOHN T. NICHOLS, Associate Curator of Recent Fishes

Exhibition

In view of the proposed adequate exhibition space for this Department in the wing of the Museum now building, work on models of Atlantic Coast selachians (from casts obtained at Cape Lookout, North Carolina) has been resumed. The large hammerhead shark has been completed; tiger shark, black-tip shark and spotted whip ray are making satisfactory progress.

By great good fortune, authentic data on a specimen of the giant spotted whale shark have come into our possession, which will make possible the construction of a life-size model of that little-known leviathan of the deep—the largest of all living fishes. The whale shark is of casual occurrence in the Florida Keys, and on June 9, 1923, one of more than 30 feet total length was captured 16 miles below Long Key by Mr. Claude Nolan of Jacksonville, while cruising among the Keys with a party of friends under the guidance of Captain Newton Knowles of Miami, and presented to the American Museum by Mr. Nolan. This fish was studied while still alive by Mr. L. L. Mowbray, of the New York Aquarium, and later by a member of this Museum's Department of Preparation. Due to unprecedented warm water at that date and lack of facilities, its skin could not be saved, but a series of measurements was made. A small study model has already been prepared and colored in the Museum's Department of Preparation, from such data, checked by photographs and moving pictures obtained of this individual, the work having been done under the close supervision of Dr. E. W. Gudger, who has for some years been compiling all available information concerning this very species.

Members of the staff have given much time and thought to future exhibition plans—in which connection see an article by Honorary Curator Bashford Dean in the November-December number of "Natural History."



DEPARTMENT OF ICHTHYOLOGY

MODEL OF WHALE SHARK

This fish attains a length of 45 feet

New Material

A large collection of Japanese Fishes was received through the agency of Chancellor David Starr Jordan, of Stanford University, and the kindness of the Imperial University of Tokyo. Other accessions of new material were small. They include small collections of fresh-water fishes from Lakeland, Florida (a gift from Professor C. R. Halter); fishes from British Guiana, collected by Herbert Lang (gift from Mr. Lang and Mr. William J. La Varre); marine fishes from the tropical Pacific, collected by Major Chapman Grant of the United States Army (by gift), and others collected by Mr. R. H. Beck, of the Whitney South Sea Expedition (by transfer from the Department of Ornithology); fishes from the Galapagos Islands, collected by the Harrison Williams Galapagos Expedition of the Department of Tropical Research of the New York Zoological Society (gift); Australian fresh-water fishes obtained by Mr. H. C. Raven. Other interesting items include a very large mounted electric ray, over 4 feet in total length and 3 feet across (purchase), and a large snake mackerel (*Gempylus serpens*) which drifted ashore at the eastern end of Long Island, establishing a northern record for this rare species on our coast (purchase). By exchange with the Australian Museum, Sydney, we have lately received 2 species of sea-horses (*Phyllopteryx*), which resemble in a very remarkable manner the seaweed in which they hide, as well as a series of Australian Carangidæ.

Bibliography of Fishes

The Bibliography was published complete on November 13, 1923. During the first half of 1923, Dr. Gudger finished the Morphological and Systematic Sections of the Subject Index, and Miss Francesca La Monte made the Finding Index. Dr. Dean and Dr. Gudger then worked up the "front matter." Various parts of Volume III were progressively finished and printed, and on August 14 orders were given the printers—the University Press of Cambridge, Massachusetts—to proceed with the final material. The package of "front matter" printed and shipped to the Museum was injured in transit, but fortunately the types had not been melted and these pages were reprinted without delay.

Volume III consists of xvi and 707 pages, distributed as follows: Title, preface and various tabulated explanatory matter ("front matter"), xvi pages; list of anonymous titles (Nos. 651-712), 3 pages; Addenda, 199 pages; Pre-Linnæan Titles (*ante*

1758), 135 pages; General Bibliographies containing references to fishes, 4 pages; Voyages and Expeditions on which fishes were taken in large numbers, 5 pages; Periodicals relating to fish and fish culture, 6 pages; Errata and Corrigenda, 7 pages; Subject Index, Morphological Section, 254 pages—Systematic Section, 51 pages—a grand total of 305 pages; and lastly a Finding Index of 41 tri-column pages. The chef-d'oeuvre of the Bibliography is its highly complex Subject Index in which the 45,000 titles in Volumes I and II and the Addenda have been minutely analyzed and the references then brought together like with like. *It is safe to say that no other group of animals has had its literature so brought together and indexed.*

Volume III has been distributed, and letters and reviews are coming in from eminent ichthyologists the world over, speaking in the highest terms of the Bibliography and in almost extravagant ones of the Subject Index. The consensus of opinion is that the Bibliography and its Subject Index constitute the most effective instrument ever put in the hands of "fish men" in the history of the world, and that it consummates a monumental undertaking.

Whether the Bibliography shall be carried on in the future is a question yet to be decided. It is, however, the purpose of Dr. Gudger provisionally to keep it up to date in the form of a card-catalogue classified under the headings used in the Subject Index of Volume III.

Other Research and Publication

Incident to identification and cataloguing of material, four articles have been published in *American Museum Novitates,* wherein five new species from Africa, one from the West Indian Island of Hispaniola, and two new genera of fishes from the Pacific Ocean are proposed. The Galapagos Collection mentioned above has been studied, and an article upon it is in press.

Frequent queries come to the Department involving the status, migrations and life histories of local marine fishes. Although there is considerable information on this subject, it is scattered and not readily accessible. Attention was given in 1923 to bringing together such information, which now in manuscript form comprises some 250 typewritten pages.

Several volunteers have given the Associate Curator material aid in this undertaking, more particularly Mr. C. M. Breder, Jr., on the staff of the New York Aquarium.

An important collection of deep-sea fishes, dredged some years ago by the Albatross Expedition to Lower California was held until such time as Dr. C. H. Townsend, of the New York Aquarium, the leader of the expedition, might find opportunity to give it personal attention. The study of this collection is now progressing.

Among miscellaneous papers published by the staff in 1923 are the following: By J. T. Nichols, two in *Science,* one in *Natural History,* one in *Copeia;* by E. W. Gudger, four in *Natural History,* one in the *Fishing Gazette,* London, one in *Science;* by W. K. Gregory, one in the Museum *Bulletin.*

Care of the Collections

The care of the ever-growing collections occupies most of the time of the laboratory assistant. He has, however, at intervals been able to increase the collection of skeleton material; he has also prepared certain fossil fishes, under the supervision of Dr. W. K. Gregory, of the Department of Comparative Anatomy.

EXISTING REPTILES AND AMPHIBIANS

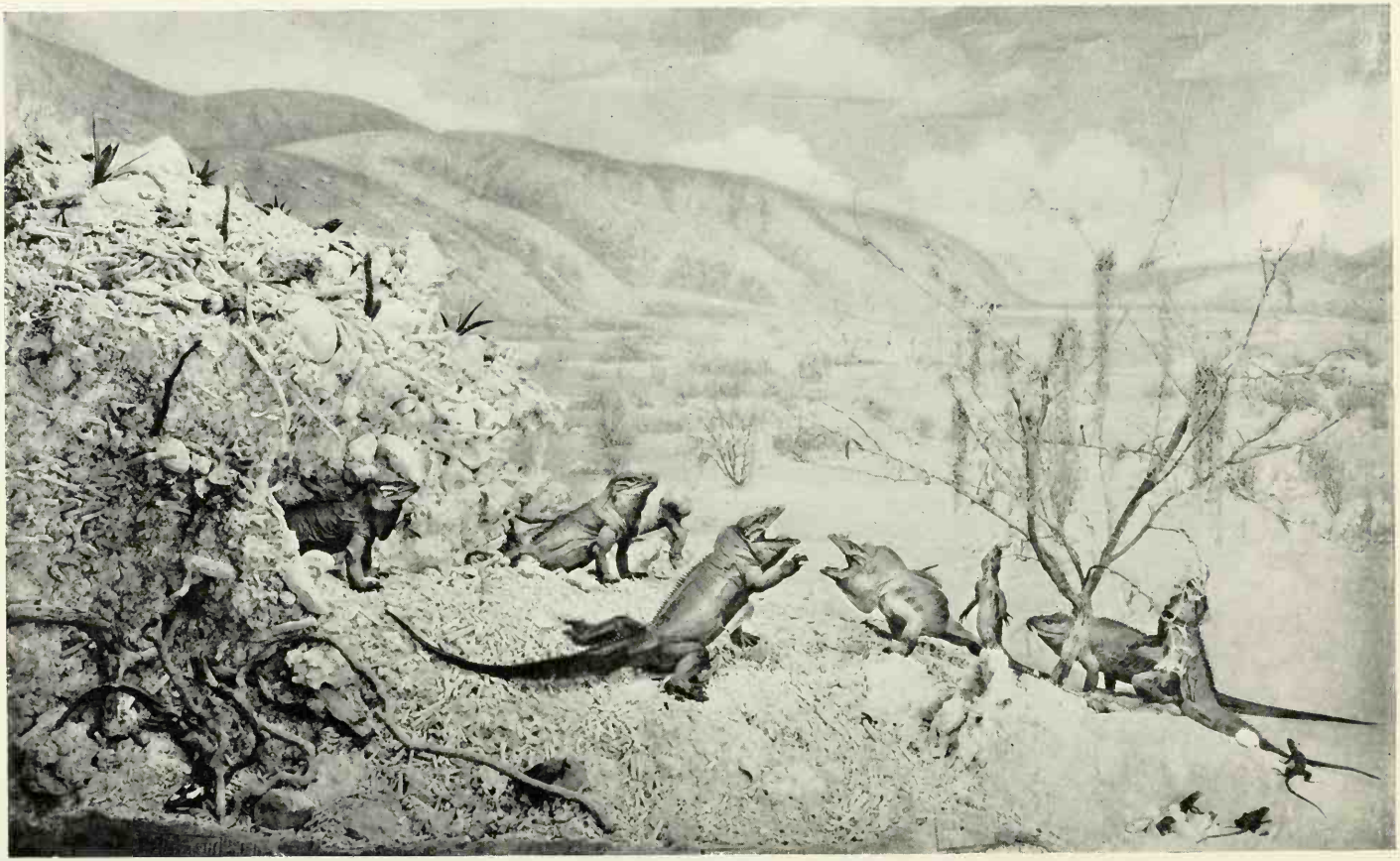
G. Kingsley Noble, Associate Curator, in Charge

The year has been one of marked progress for the Department of Herpetology. The number of reptiles and amphibians received and accessioned during 1923 is about one-fifth of the number in the entire collection. Several very important developmental series of American and European Amphibia were obtained through field work and exchange. An expedition sent to Arizona to investigate the Gila Monster was successful in bringing together important data to be used in the installation of a Gila Monster Group. The exhibition program continued with success, resulting in the completion of a spectacular group of Rhinoceros Iguanas and many smaller exhibits. The Department of Herpetology has three major interests: exhibition, accumulation of collections, and research. In each of these fields a decided advance was made.

Expedition to Arizona

One of the most interesting of American lizards is the Gila Monster (*Heloderma*). It is the only poisonous lizard in the world. Its odd coloration and peculiar habits make it of especial value for exhibition purposes. This year the Department was fortunate in being able to send Assistant Curator Ortenburger to the Catalina Mountains, Arizona, to study the Gila Monster, preliminary to installing an accurate group of these saurians in the American Museum.

The expedition found that the Gila Monster frequented the "shelves" overlooking the dry canyons of the Catalina Mountains. Here, among gorgeously flowered cacti and grotesquely spined shrubs, the majority of the fifteen Gila Monsters brought back to the Museum were captured. Rattlesnakes were not rare in this region. Of these, the Desert Diamond-Back was the most abundant. Specimens of the rare Tiger Rattlesnake and the Black-tailed Rattler were also secured. Although emphasis was laid on securing photographs and accessories for the group, 1,607 reptiles and amphibians were collected. Further, a series of the eggs and tadpoles of the two western Spadefoot Toads (*S. couchii* and *S. hammondii*) were obtained. Valuable observations were



DEPARTMENT OF HERPETOLOGY

THE RHINOCEROS IGUANA GROUP

This, the most powerful lizard of the New World, frequents the desert areas of Santo Domingo. This scene represents the western shore of Lake Enriquillo, a dead sea more than 130 feet below the surface of the ocean

made on many of the rarities captured, especially on the Spadefoots, the Faded Snake (*Arizona*) and several of the Racers.

Field Work in the New York Region

The life histories of several of our local reptiles and amphibians are still unknown. This year the Associate Curator continued his work on the Spadefoot Toad. Thanks to the coöperation of Mr. G. P. Englehardt of the Brooklyn Museum, and Mr. B. T. B. Hyde of the Boy Scouts Museum, much general work on our local fauna was done. Mr. G. S. Myers, acting as a volunteer assistant, has brought the literature on our local region together. During the spring and summer, Mr. Myers made a series of collecting trips to New Jersey and Long Island. When this work has advanced further, the Department intends to publish a handbook on the reptiles and amphibians of the local region. Much valuable exhibition material showing the life histories of some of our local species was secured on these trips.

Exhibition

A group illustrating the home life of the Rhinoceros Iguana, perhaps the most spectacular West Indian lizard, was brought to completion this year by the Department of Preparation. The group was commenced late last year by Mr. F. Blaschke. It will form one of the important links in a series of habitat groups to be installed during the coming year in the new Hall of Reptiles and Amphibians. Each of these groups will illustrate some important phase of the biology of reptiles and amphibians. The Rhinoceros Iguana Group represents the life history and habits of a typical desert lizard. The fact that the lizard shown is of large size and grotesque features insures a study of the group by even the casual visitor.

Most of the animals have been mounted, the accessories either partly or completely reproduced, and the final plans arranged for a Giant Tree Frog Group, a Sea Snake Group, a Gopher Turtle Group, a Sea Lizard Group, a Sphenodon Group and a Gila Monster Group. There is, of course, no room in the present hall of reptiles for all of these groups. They will probably be installed as soon as they are completed in the new Hall of Reptiles and Amphibians.

A model of this new hall was made during the year according to the plans which have been developing during the past two years. It was found that the habitat groups could be arranged

to the best systematic and artistic purposes behind a cloister along the west side of the new hall. It is planned to have a special alcove in the hall for the local Reptiles and Amphibians. Miniature glass cases were made and arranged in the model to determine the exact position of the future exhibits.

Two large habitat groups were commenced this year. The first, made possible through the generosity of Mr. Harrison Williams and Mr. William Beebe, illustrates the habits of *Amblyrhynchus,* a strange iguanid of the Galapagos Islands which lives and feeds primarily in the sea. Mr. Beebe also secured specimens of *Conolophus,* a giant land iguanid of the Galapagos, which, although closely related to *Amblyrhynchus,* has retained its terrestrial customs. The habits of these two iguanids will be contrasted in the group as an example of adaptive radiation within a single family of lizards.

The second habitat group begun this year illustrates the habits of the Gila Monster. A small section of one of the canyons of the Catalina Mountains, Arizona, will be represented and the cacti, Spanish bayonet and other vegetation faithfully reproduced. Gila Monsters are carnivorous creatures. They feed on other lizards, and occasionally on birds' eggs. The group will show the Gila Monster stalking its prey, while some disinterested neighbors, as a Western Gopher Turtle and a Sonoran Racer, hesitate for a moment as if undecided which way to move.

Considerable advance was made during the year towards furthering the synoptic collections. Three important additions were made to our exhibit of "Poisonous Snakes of America." These were the Red Rattlesnake, the Tiger Rattlesnake and the Black-tailed Rattlesnake. Several important western species were added to the synoptic series. These were the western frogs, *Rana boylii* and *Rana aurora,* and the Plains Spadefoot Toad, *Scaphiopus couchii.* Other western forms prepared and placed on exhibition this year were *Bufo punctatus, B. alvarius* and the rare discoglossid toad, *Ascaphus truei.* Additional salamanders include the rare Olympic Mountain Salamander, *Rhyacotriton,* two Carolina red salamanders and several of our local species. Two giant tortoises, one from the Galapagos and one from the East Indies, were mounted.

Many specimens were prepared for the habitat groups during the year. Perhaps the more interesting of these include two

specimens of the Dominican Tree Frog, several specimens, adult and hatching young, of one of the Dominican "Chameleons," a western Gopher Turtle, a Sonoran Racer, several iguanid lizards, and three Sea Snakes.

Additions to the Collection

The number of reptiles and amphibians added to the collection this year far exceeds the brilliant record of last year. No less than 11,063 adults have been accessioned, while the 44 lots of amphibian eggs and larvæ received would bring the total more than 12,000 individuals. Considering at first only adult material, 8,121 specimens were secured by Museum expeditions, 1,007 were acquired by gift, 1,193 by purchase, 574 through exchange, and 167 in local field work. The developmental series were received from the Third Asiatic Expedition, the Princeton Panama Expedition, the Department's Expedition to Arizona, from Mr. Putman of Washington, and from Dr. Wolterstorff of Germany. The material received is about equally divided between reptiles and amphibians. It includes 5,948 adult reptiles and 5,115 amphibians, exclusive of the life-history series.

It is largely due to the Department's many friends that the number of specimens received this year is the largest in its history. Among those who were especially generous are Mr. and Mrs. C. M. Breder, Jr., who donated a collection from North Carolina; Mr. Herbert Lang and Mr. W. J. La Varre, who gave a large collection from British Guiana, and Mr. Thomas Hallinan, who made a collection for us in Florida. Others who donated important material to the Department are Dr. A. Amaral, Mr. L. M. Klauber, Colonel M. L. Crimmins, and Professor L. A. Mannhardt. The collections came from many parts of the world. The Whitney South Sea Expedition, the Third Asiatic Expedition, the Faunthorpe-Vernay Indian Expedition, the Australian Expedition, the Anthony-Tate Expedition to Ecuador, and the Princeton Panama Expedition all made large and valuable collections of reptiles and amphibians. Exchanges were arranged with museums in Australia, South America and various countries of Europe by which the collections made by these expeditions were rounded out into larger and more representative ones.

The collection of reptiles and amphibians in the American Museum cannot yet boast of having a complete representation

of all the genera in the world, but such extraordinary progress has been made during the past five years toward securing such a representation that it will not be many years before our collections are as representative as those of any museum in America.

It is chiefly by exchange relations that we may expect to develop a representative Museum collection. This year several new avenues of exchange were opened up. The more important exchanges were negotiated with Dr. Franz Werner of Vienna, Dr. W. Wolterstorff of Magdeburg, Dr. Karl Weingand of Württemberg, Dr. Jean Roux of Basel, Switzerland, Dr. Thomas Barbour of Cambridge, Massachusetts, Dr. Robert Mertens of Frankfurt, Germany, Dr. A. G. Ruthven of Ann Arbor, Michigan, Mr. L. M. Klauber of San Diego, California, the South Australian Museum, Adelaide, the Queensland Museum, Brisbane, the British Museum, Mr. R. P. Erwin of Boise, Idaho, Mr. Clyde Patch of Ottawa, Dr. José B. Vianna of Bello Horizonte, Brazil, and Dr. Miranda-Ribeiro of Rio de Janeiro. The growth of these exchange relations has kept pace with, and necessarily cannot run ahead of, the supply of reptiles and amphibians secured by our expeditions.

Care of Collections

The chief matter of daily concern in the Department is the study collections. The handling, labeling and arranging of the 60,000 specimens in our care absorb an enormous amount of time. Not only were the 12,000 specimens received this year cared for, but considerable progress was made on the final arrangement of materials in the storeroom. All the crocks and cases were labeled so that any specimen contained therein could be quickly noted.

Bibliography of Reptiles and Amphibians

Little mention has been made in former reports of the Department's Bibliography of Reptiles and Amphibians. Various department members have rapidly advanced this very important work during the past five years. Miss A. L. Brown and Miss E. E. Nelson gave it their especial attention this year. Certain sections of the Bibliography, especially those on the Amphibia, are nearly complete and have afforded much satisfaction to the several visiting specialists who have consulted them. Undoubtedly, this is the most complete bibliography in America dealing with the structure, biology and systematics of the Amphibia.

Research and Publication

The enormous amount of material, nearly 30,000 specimens, received during the past three years has naturally given the opportunity for varied research. Assistant Curator Ortenburger studied the Polynesian collections and part of the large Chinese collections, and also devoted much time to the work he has had in hand for several years, namely, his monograph on the Black Snakes and Racers. The Associate Curator has attacked a great variety of problems, including research on his Santo Domingan collections, on several South American collections, and on North American Amphibia. He has also considered several osteological problems and has published some of the observations which he made on the local Amphibia. His observations were not confined to material in the American Museum. A paper on some of the Neotropical collections in the United States National Museum has been completed and presented for publication.

The year has been a particularly fortunate one in regard to publications. The number of papers produced far exceeded the record of any previous year. The wide range of subjects treated in these papers serves as an index to the many-sided interests of the Department.

The two most extensive papers appeared in the *Bulletin*. These are "Classification of the Lizards" by C. L. Camp and "Contributions to the Herpetology of the Belgian Congo, Based on the Collection of the American Museum Congo Expedition, Part II, Snakes," by K. P. Schmidt. Part III of this series considers the Amphibia. It is by G. K. Noble and is now in press.

Assistant Curator Ortenburger published during the year: three papers in *Copeia,* and one in *Occasional Papers* (Mus. Zool., Univ. Michigan).

Associate Curator Noble published four articles in *Novitates;* two in *Zoologica;* one in the *American Naturalist;* one in *Science;* one in collaboration with Ruth Crosby Noble in *Zoologica;* one in collaboration with W. K. Gregory and R. W. Miner in the Museum *Bulletin;* also several popular articles and notes in *Natural History.*

BIRDS

FRANK M. CHAPMAN, Curator*

In the absence of Curator Chapman in South America, the duty of preparing a summary of the work of his department for the last year falls upon the Associate Curator. Without special knowledge of the accomplishments upon which Dr. Chapman might wish to lay stress, or of the thread of ideas which he would weave through his record, the writer may say that in general the plan of coördination outlined in the first paragraph of the report for 1922 has been followed during the year just ended.

Whitney South Sea Expedition

The field work of the most extensive ornithological expedition ever undertaken by the American Museum has been confined chiefly to the Tuamotu Archipelago in the central South Pacific. Landings and collections were made at upwards of forty islands in this group, thus bringing to practical conclusion the survey of the vast area of French Oceania and of the outlying islets under British and American suzerainty. By way of geographic summary it may be noted that ninety islands have been visited since September, 1920, and the base of the schooner "France" has now been transferred westward from the region of the Tuamotus, Societies, Australs, and Marquesas, to the Samoa-Fiji-Tonga complex, with present headquarters at Tutuila. Scientific results have continued to equal or exceed expectations, the collections of both land and sea birds including a large proportion of little-known and new forms. In consequence, the Museum not only finds itself in a position to publish comprehensively upon the relationships and geographical distribution of the Pacific avifauna, but it has also a rare opportunity to enhance its general collections by exchanging the much sought Polynesian material with other museums. As heretofore, birds have been by no means the only specimens obtained by the staff of the "France." A considerable collection of herbarium sheets, to name an example in but one other branch of science, have been forwarded to the botanists of the Bishop Museum, in Honolulu, the director and staff of which have

*Report prepared by Associate Curator Murphy.

DEPARTMENT OF ORNITHOLOGY

A Home on Pitcairn Island

Famous refuge of the "Bounty" mutineers, where the Whitney South Sea Expedition collected birds, plants and other natural history material

spared no pains to coöperate in every way with our own project.

During the summer, Mr. R. H. Beck, the leader of the Whitney Expedition, was recalled to New York for consultations made necessary by extension of the plans. Throughout his absence, however, field operations were continued by Mr. José G. Correia, who had previously served the Museum in other parts of the world, and who joined the "France" early in 1923 to replace Mr. Ernest H. Quayle whose health necessitated retirement.

Field Work in South America

In accordance with the plans of Dr. Chapman, Mr. Harry Watkins has continued his collecting in northern Peru, and has made several shipments of material which throws light upon the paths of distribution across the Andes from the humid Amazonian forests to the arid Pacific slope. Collecting in eastern Ecuador by Messrs. Olalla and sons, of Quito, has not only added species hitherto unrepresented in American collections, but has been equally successful in supplying many data supplementing Dr. Chapman's own investigations, all of which are being incorporated in the manuscript of his forthcoming monograph on the distribution of bird life in Ecuador. Late in the year, Dr. Chapman, accompanied by Mr. Frederic C. Walcott, Conservation Commissioner of Connecticut, sailed for southern Chile, where he plans to study the bird life of the south temperate and subpolar Andean environment.

Other Field Work

During the summer Dr. Chapin spent his vacation in Panama and the Pearl Islands, collecting and studying birds with Mr. Charles H. Rogers of the Princeton University Museum. His impressions of Central American faunal conditions, as compared with those in equatorial Africa, formed the basis of a paper before the American Ornithologists Union at the annual meeting in October.

In January, Mr. Griscom made a brief trip to the coastal prairies of southeastern Texas with Mr. M. S. Crosby, to study the game birds and waterfowl which still exist there in undiminished abundance. The special object of the trip, to find the Whooping Crane, now almost extinct, was attained. Special attention was given to the ecology of the Tropical species which

reach their northern limit in this region. During the summer, Mr. Griscom was invited to join a Harvard University exploring expedition into unsurveyed portions of the Shickshock Mts., Gaspé Co., Quebec, and was absent during July on this work. No less than four life zones are represented in these mountains, and special attention was devoted to the flora and avifauna of the Hudsonian and Arctic Zones.

Additions to the Collections

The principal accessions obtained through field collection and purchase comprise the following: Whitney South Sea Expedition, 5,978 specimens from Polynesia; Third Asiatic Expedition, 128 from China; Australian Expedition, 149; various sources, 1,392 from Peru, 2,742 from Ecuador, 424 from the Belgian Congo. Important gifts include 254 skins from India, collected and presented by Colonel Faunthorpe and Mr. Vernay; 103 from Dr. L. C. Sanford; 51 African skins from Mr. Martin Johnson; 182 from British Guiana, presented by Messrs. Herbert Lang and W. J. La Varre; 97 specimens from Mrs. W. W. Naumburg; 315 Porto Rican birds from Mr. B. S. Bowdish; and 101 skins from Natal, presented by Mr. F. B. Cowles.

Exchanges with the Field Museum of Natural History, the California Academy of Sciences, the Durban Museum of South Africa, the Canterbury Museum of Christchurch, New Zealand, and the Brooklyn Museum, have also enriched the collections. Upwards of 1,100 specimens from Venezuela and other parts of northern South America have been obtained from the last named institution.

Completion of the cataloguing and storage of the New World collection, enabled Mr. Griscom to compile for the first time an accurate list of the genera, species, and subspecies of American birds in the Museum, and the approximate number which are available for exchange. With this as a basis, he has been able to complete exchanges entered into years ago with the Museum of Comparative Zoology. Visits to that institution and to the Academy of Natural Sciences of Philadelphia have further enabled him to arrange for acquiring certain of our most important desiderata. As matters now stand we lack but twenty-six of the New World genera named in Sharpe's "Hand-List," barring two peculiar forms of hummingbirds which have been given generic names but are now believed to represent hybrids. One of our

missing genera is West Indian, seven are Central American, and the remainder South American. The bulk of them belong to the families of flycatchers and ant-thrushes.

Care of Collections

The acquisition of additional storage facilities during the year permitted the partial expansion and rearrangement of the collections, making the various parts more accessible. Under direction of Dr. Murphy, most of the specimens from the Pacific Islands have been filed in systematic sequence, filling eleven cases in one of the recently acquired rooms. The identification and cataloguing of the several Old World collections received during the year, as well as the general care and arrangement of that part of the bird collection, has devolved upon Dr. Chapin, who was appointed Associate Curator of Birds of the Eastern Hemisphere.

Early in the year, Messrs. Miller and Chapin drew up a list of the genera of Old World birds as yet unrepresented in the collections of the American Museum. Sharpe's "Hand-List" was again the basis, and the number of missing genera was found to be 435, for the Eastern Hemisphere. Through systematic efforts to secure such specimens, during the year, the number has already been reduced to 324.

Mr. Griscom devoted such time as was available to a rearrangement of part of the First Series of New World birds. The more primitive groups, from the Rheas to the Parrots, were systematically inspected, and many additional forms, recently described, were found to exist in the collection.

Mr. Miller and Dr. Chapin have also made a good beginning in a complete overhauling of the Museum's large collection of avian skeletons. Owing to lack of space, this valuable material has been for years accessible only with difficulty. It is now being stored in a large room in the Central Section recently acquired from the Department of Mammals, where it will form for the first time an integral part of the study material in the Department of Birds.

Research

The time of the Curator has been employed chiefly in the preparation of his *Bulletin* on the birds of Ecuador, interspersed with necessary monographic revisions of certain neotropical birds, such as the motmots of one genus, and finches of the genus *Buarremon*. He has also issued descriptions of many new South American forms.

Dr. Murphy's research has been seriously interrupted by administrative duties, but he has worked up the specimens representing several families of South American marine and littoral birds, and has made a preliminary study of the great collections from Polynesia, including the description of a number of new or little known forms. He has also published papers relating to insular birds or oceanographic problems, in *The Ibis, El Hornero,* and the *Geographical Review.*

Mr. Miller has continued his researches on ptilosis and the viscera of birds, while his studies on the structure and classification of the woodpeckers and their allies have been practically completed. In collaboration with Mr. Griscom, he has resumed work on the report on the distribution of bird life in Nicaragua.

Dr. Chapin continued the preparation of his report on the birds of the Belgian Congo. The species to be treated exceed one thousand, and the greater part of this extensive field has been gone over, although for many of the passerine families the systematic notes on distribution and habits have not yet been completed. The three preliminary papers connected with this work which have appeared during the year contain revisions of the genera *Guttera* and *Lampribis,* as well as a general survey of bird distribution in tropical Africa, from an ecological point of view, in the *American Naturalist.*

Dr. Chapin has also written a guide leaflet on methods of preserving birds for scientific study, for the use of friends of the Museum in the field, which appeared in early December.

Mr. Griscom has issued several technical papers in *The Auk* and elsewhere, as well as an up-to-date work on local birds, published by the Museum. Of this book, entitled "A Handbook to the Birds of the New York City Region," 400 pages, 6 colored plates and folding map, more than four hundred copies were sold between September 14, the date of issue, and December 1. A review of this work in *The Auk* states that the author has used "admirable judgment and the result is the most satisfactory local treatise that we have seen . . . indeed it should be in the hands of all field students of the birds of eastern North America."

Dr. Dwight and Mrs. Naumburg, Research Associates, have respectively continued their researches upon the gulls of the world and the birds of Brazil.

Presentation of Papers

As usual, the department was well represented on the annual program of the American Ornithologists Union, which convened at Cambridge, Massachusetts, in October. During the technical session, which occupied one morning of the meeting, five of the six papers presented were the work of ornithologists on our staff. In the course of the entire meeting Dr. Chapman contributed three papers; Dr. Murphy three; Mr. Miller one; Dr. Chapin two; Mr. Griscom two, and Mrs. Naumburg one.

At the annual meeting of the National Academy of Sciences, held at Ithaca during November, Dr. Chapman delivered, under the auspices of Cornell University, the local chapter of Sigma Xi, and the Academy, a lecture on "The Origin and Distribution of Andean Bird Life."

Exhibition

Lack of space has again prevented the preparation and installation of distinctly new exhibits, but accessions of birds in the flesh from the New York Zoological Park have been used to replace old and faded birds in the systematic exhibits with fresh specimens mounted in accordance with the superior modern methods.

With the coöperation of the Department of Preparation, the replacing of all soiled or faded labels in the exhibition collections has been carried on as far as possible.

MAMMALS

Roy C. Andrews, Associate Curator of Mammals of the Eastern Hemisphere

H. E. Anthony, Associate Curator of Mammals of the Western Hemisphere

The Department, during the year, has continued the general expansion and development which has been under way for the past few years, although growth has been more noticeable in additions to collections and installation of storage facilities and methods, while exhibition plans have necessarily found concrete expression more difficult.

Accessions

The total number of specimens received during 1923 is 6,292, acquired as follows: by expedition, 5,653; by gift, 284; by purchase, 341; by exchange, 18. The most noteworthy of these accessions are those of the Third Asiatic Expedition, 1,821; the expedition to Ecuador, 2,285; the Faunthorpe-Vernay Indian Expedition, 127; the expedition to Australia, 1,200; the expedition to the Gaspé Peninsula, 220. By gift: from Indo-China, 25; from South America, 118; from the New York Zoological Society, 82.

Expeditions

The Third Asiatic Expedition has completed three years of extraordinarily successful work in the Orient. Although the Expedition was organized on a five-year basis, such vast collections and such important data have already been obtained that it seemed advisable for the members of the staff to return to New York during the winter of 1923-1924. The results already obtained are of such revolutionary character that it was necessary to consider future work in the light of what has already been discovered.

President Osborn visited the Museum's headquarters in Peking and joined the Expedition in Mongolia at Iren Dabasu, where he inspected the personnel, equipment and several of the most important fossil fields. Not only has the Expedition obtained or discovered the largest and richest fossil deposits in the world, but has begun mapping a country half as large as the United States

and without any accurate map today. Professors Berkey and Morris have made discoveries in the geology of the Gobi Desert which are quite as important, though less spectacular, than those in palæontology.

The combined Asiatic Expeditions have yielded more than 10,000 mammals, many of them new to science, as well as many thousand fish, reptiles and batrachians. A Chinese artist in the employ of the Expedition has executed some beautiful paintings of many of the fish and reptiles of China, and it is hoped that this interesting but little known fauna may be completely illustrated before the work is ended. The work of the expedition has been so extensive that it is possible to mention only a few of the most spectacular finds in palæontology: the skull of the big *Baluchitherium,* the Dinosaur eggs, and a series of seventy skulls and twelve skeletons which illustrate the complete development of the ancestral Dinosaur *Protoceratops;* skeletons of other primitive Dinosaurs and a skull of the largest carnivorous mammal known to have existed are perhaps the individual specimens which have attracted the greatest possible notice. There are, however, hundreds of other specimens which scientifically are of almost equal importance with those that have been mentioned.

In general results, the expedition has demonstrated that Mongolia was the point of origin and center of distribution of much of the reptile and mammal life of the rest of the world. At this time, America and Europe were low-lying continents practically at the level of the sea, while Mongolia was high and dry upland with conditions favorable for the development of reptilian life. That there was a land connection by way of Bering Strait and the Aleutian Islands and that this was a highway of travel to and from the two continents have been definitely established.

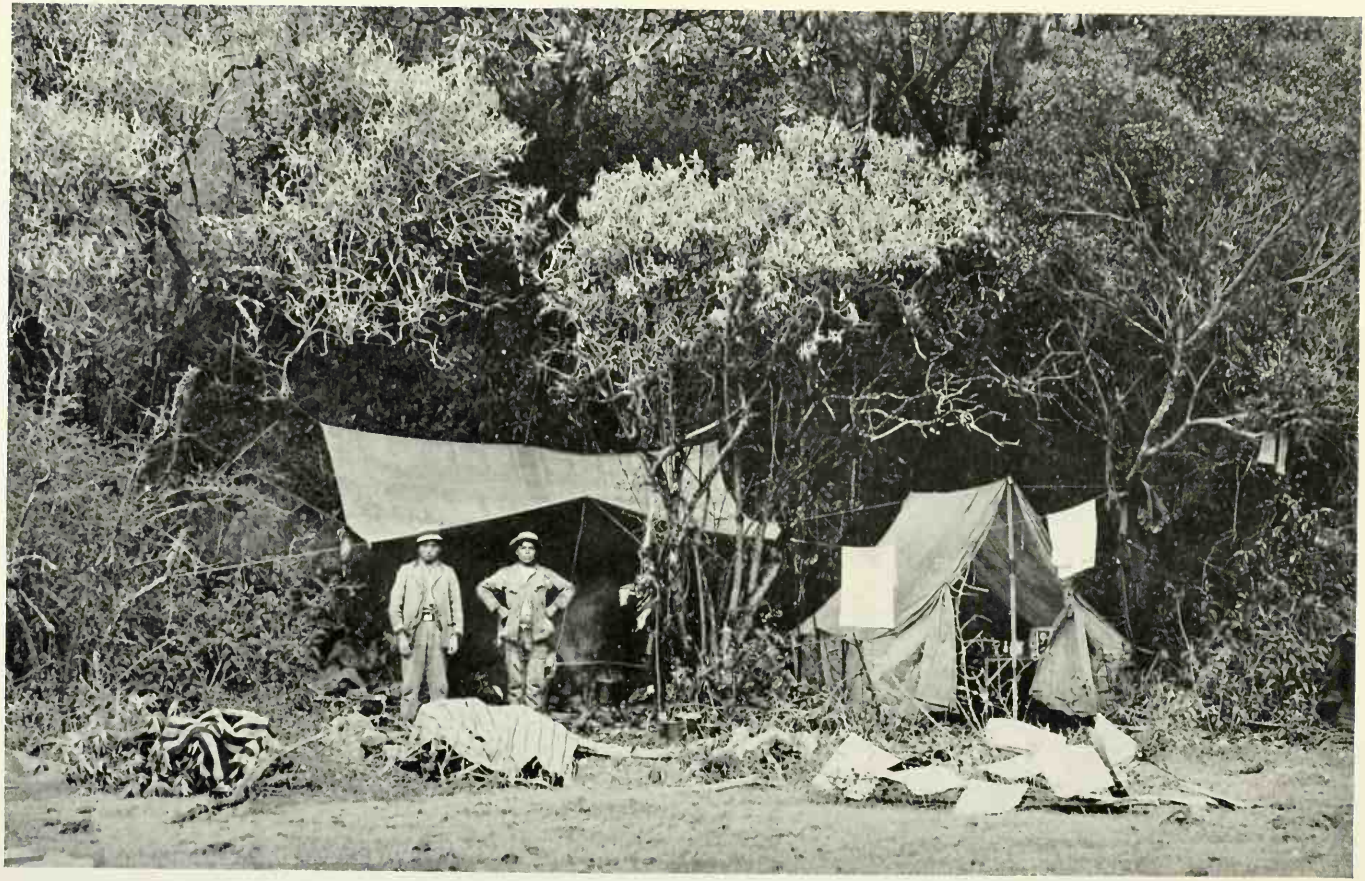
After his field survey, President Osborn has admitted that the expedition cannot conclude its work in the five-year period for which it was originally planned. Although a splendid beginning has been made—it is only a beginning. Without doubt, Mongolia presents the greatest opportunity which has been offered to American science in a century. An almost untouched country lies open before us; we have obtained the entrée into a region physically and politically difficult of access; we have the machinery of a great expedition working smoothly and effectively. It is probable that conditions never again will be so auspicious.

In order to take advantage of this great opportunity, it is necessary to extend the period of field work of the expedition for an additional three years, when the original five years are ended. The scope of the work should be enlarged to include a botanist and an archæologist, and new equipment which will give greater efficiency is urgently needed.

The men who have taken part in the expedition during the last three years are as follows: Roy Chapman Andrews, Leader and Zoologist; J. B. Shackelford, Photographer; Walter Granger, Palæontologist; Charles P. Berkey, Geologist; Frederick K. Morris, Topographer; George Olsen and Peter Kaisen, assistants in Palæontology; Clifford Pope, assistant in Zoology; Bayard Colgate, J. McKenzie Young, Albert Johnson and Vance Johnson, Motor Transportation.

The Faunthorpe-Vernay Indian Expedition completed its first season of field work by the middle of 1923. Mr. Arthur S. Vernay, who so generously financed this ambitious enterprise, and Col. J. C. Faunthorpe, who headed the party in the field, were exceedingly successful, bringing together a magnificent collection of the big game of India, many species of which are fast approaching extinction. The collection numbers 127 specimens of about 42 species, and includes the Indian Elephant, the great Indian Rhinoceros, Tiger, Bear, Leopard, Gaur-ox, etc., many of the skins accompanied by complete skeletons. The success of the Faunthorpe-Vernay Indian Expedition is to be attributed not only to the experienced planning and administration of the leaders of the party, but to the widespread spirit of coöperation encountered among the Indian officials wherever the expedition moved. Many splendid groups of Indian mammals will appear in the Hall of Asiatic Mammals as a later result of this expedition.

Field work in Ecuador was carried on continuously from April throughout the year. The expedition of 1922 lasted into the forepart of 1923 and the collections made during the latter part of this expedition did not reach the Museum until 1923. Consequently, these specimens appear in the total given for Ecuador, although the work was reported upon in the last Annual Report. Mr. G. H. H. Tate began his third consecutive season in Ecuador (1923) as field collector for the Department of Mammals by a reconnaissance along the west coast of Ecuador from Salinas to Pedernales. On this trip he made several cross-sections through



DEPARTMENT OF MAMMALOGY

Camp of the Museum's expedition at Antisanilla, Ecuador

the low-lying western ranges to investigate persistent reports that high mountain forest was to be found in this region. This supposition was shown to be erroneous, for no mountains over 2,200 feet in elevation were encountered. At the end of July, Mr. Tate returned with a large collection to Guayaquil to meet Mr. H. E. Anthony, who planned to take direct charge of the Ecuador field work for the ensuing three months.

Mr. Anthony and Mr. Tate proceeded to Quito where a base was established in the quarters of Mr. Ludovic Söderström, the venerable naturalist who has so often played host to Museum workers. During August, September and October, active collecting was carried on over a large extent of territory, comprising Mt. Pinchincha, Mt. Cotopaxi, Mt. Corazon, Mt. Antisana, Mt. Chimborazo, and adjacent territory, where most of the work was done above elevations of 10,000 feet. Sometimes traps were run along a glacier front in the effort to map out the highest life zone. Very valuable results were obtained and in spite of many transportation difficulties large collections were taken. Ten days were spent in collecting Pleistocene Mammalia at Punin, where specimens of Mastodon, Camel, Horse, Ground-sloth, Deer, Wolf, etc., were found, as well as a human skull which because of its associations and suggestive appearance may prove to be an exceptionally interesting find. Mr. Frick contributed $300.00 for field expenses of the expedition, and it was due to his generosity that the expedition was able to cover as much territory as it did, and especially to work in the fossil beds.

Mr. Anthony left Ecuador on November 16, bringing back 1,330 mammals, a quantity of fossil material, 454 specimens of plants, small collections of birds and of reptiles and amphibians, and 250 photographic negatives. Mr. Tate remained in the field to carry on the work. The greatest prize of this season's work in Ecuador is a splendid series of nearly 150 *Cœnolestes*—skins, skeletons and alcoholics. There are also a number of species new to science in the material taken in Ecuador this year.

Mr. H. C. Raven completed the field work in Australia and returned to the Museum early in 1923. He brought back a large collection of mammals, as well as material for other departments. A detailed report of this expedition is given by the Curator of the Department of Comparative Anatomy.

Mr. Herbert Lang returned in March from a six months' ab-

sence in British Guiana. This trip was taken on Mr. Lang's own time and initiative, on accrued vacation periods, but with characteristic generosity he has presented to the Museum much valuable material which he collected. Most of the time was spent in the forests of the interior, as one of the purposes was to make a comparison between the tropical rain-forests of South America and that of the Belgian Congo. Collections of mammals, birds, amphibians, plants, and a large series of photographs were secured.

Mr. George G. Goodwin, assistant in the mammals of the Western Hemisphere, made a short trip to the Gaspé Peninsula in August and September to collect the mammals of this little-known region. In order to make this possible, he very generously contributed his vacation period of three weeks. He was remarkably successful and secured an excellent collection of many species not hitherto represented in the Museum series and of which one species appears to be new to science. There are 220 specimens in the Gaspé collection, and to bring together these specimens Mr. Goodwin penetrated into the interior and underwent considerable hardship and discomfort.

Gifts

Aside from the outstanding contributions of mammals made by the Faunthorpe-Vernay Indian Expedition, which are to be considered as a gift from Mr. Arthur S. Vernay and Col. J. C. Faunthorpe, the American Museum has received many other additions to the mammal collections through the kindness of Museum friends.

Mr. Douglas Burden has donated 25 valuable specimens of mammals from Indo-China, including Gaur, Banteng, Sambur, Eld's Deer, etc. Mr. William Beebe has presented specimens of the seal from the Galapagos Islands, while Mr. T. D. Carter, assistant in mammals of the Eastern Hemisphere, has given to the Department the mammals collected by him on his vacation spent in Florida. Other gifts are listed at the head of this report.

Exhibition

With the construction of the new wing actually under way during the greater part of the year, most of the plans for exhibition have been centered upon the groups to be included in the proposed Hall of Asiatic Mammals. A small-scale model of the Hall of Asiatic Mammals has been made, and detailed plans are being formulated for the installation of the many striking groups of the splendid material obtained by

the Third Asiatic Expedition and by the Faunthorpe-Vernay Indian Expedition. The wealth of material from these sources insures a number of very effective groups.

Care of Study Collections

The care of study collections, the cataloguing, the storage of material, the conducting of research, have all been carried on under severe handicaps due to congestion in the Department.

More than 5,000 mammals were catalogued and stored in the Department during the year. The card catalogue of the collections has progressed favorably. The Department assistants, Messrs. Carter and Goodwin, have brought the study collections as far toward a permanent and systematic arrangement as storage facilities have permitted, and a comparison of the Department at the close of 1923 shows considerable advancement over the condition at the close of 1922.

Research

Notwithstanding the fact that it has become increasingly difficult to do research work, as the congestion in the Department has grown, there has been a great deal accomplished along the lines of identification and philosophical research.

Dr. Glover M. Allen of the Museum of Comparative Anatomy at Cambridge was engaged early in the year to work up and identify the accumulated Asiatic collections. The specimens were sent to Cambridge, group by group, and Dr. Allen has already completed the Chiroptera and the Insectivora. He is now at work on the Microtinæ. He has published a paper in *Novitates* on the Chiroptera and has another in press on the Insectivora describing the new species discovered.

Mr. H. E. Anthony has spent as much time upon his researches on the mammals of Ecuador as press of other duties allowed. Under his direction, an artist, Mr. Malcolm Jamieson, has made a number of skull figures and drawings. A third preliminary report on Ecuadorian mammals has been published in *Novitates,* describing eight new species, and many other new species are awaiting opportunity for publication, as the identifications have already been made. Other research by Mr. Anthony includes a report on mammals from the Bogotá region of Colombia and from Mexico, the results appearing in a ten-page *Novitates.*

Mr. Herbert Lang has carried on extensive researches neces-

sary to bring the Congo reports to completion, and has written field notes and observations for papers upon entomology, ichthyology, herpetology, and general invertebrate zoology. In addition, he has brought together and arranged for publication the volume to be known as the Allen Memorial Volume. During the year Mr. Lang published a *Novitates* on a new genus taken by the Congo Expedition. He has also directed the activities of an artist, Mrs. Helen Ziska, who has been engaged upon Congo material in the Department for the latter half of the year.

A phase of research activity that has become more prominent within the past year is the identification of mammal remains for anthropologists. Bones dug up from kitchen-middens or associated in any way with human occupation are submitted to this Department not only by the Department of Anthropology of this Museum, but also come from the Museum of the American Indian. It is important that care be exercised in making identifications, more especially since much of the material is fragmentary. This requires much time. Fortunately, Mr. Goodwin has been able to specialize to a certain extent on this work and thus to relieve the Associate Curator, who formerly had to do it all.

Some mapping and plotting of distributions have been done during the year.

Several large collections have been sent out and received in the course of borrowing or lending to other museums, necessitating no little expenditure of time for listing, packing, checking, etc.

Publications

By Mr. Roy Chapman Andrews, a series of articles in *Asia* Magazine, giving the narrative of the Third Asiatic Expedition; these were begun in April, 1923, and are not yet completed; by Mr. H. E. Anthony, two in *Novitates;* two in *Natural History,* and one in the *Bulletin* of the American Game Protective Association; by Mr. Herbert Lang, one in the Museum *Bulletin,* one in *Novitates,* and two in the *Journal of Mammalogy.*

Other Activities of the Staff

Mr. Anthony and Mr. Lang attended the annual meeting of the American Society of Mammalogists, held in May in Philadelphia, where each contributed to the program of addresses. Mr. Anthony and Mr. Lang also attended the annual convention of the American Game Protective and Propagation Association as delegates from the American Museum.

Mr. Anthony carried on the campaign for the Allen Memorial Fund, as Secretary and Treasurer of the Central Committee, until July, when he left for Ecuador. Mr. Lang then acted during the absence of Mr. Anthony and was very successful in securing contributions. The Fund now stands at more than $5,200.

Summary

The most notable progress made by the Department of Mammalogy during 1923 was in the building up of collections and in the preparation for exhibition. The valuable additions to the study collections characterize the year just passed as one of the most important in the history of the Department. The accumulation of material for the new Hall of Asiatic Mammals and the plans for exhibition in this hall mark the beginning of an expansion hitherto unexperienced in the Department. In publication the year may be considered a normal one. The installation for care of collections and the departmental activities toward the same end have progressed about as in former years.

EXISTING AND EXTINCT RACES OF MEN

CLARK WISSLER, Curator

Accessions

Ninety-nine accessions were received during the year; a large number of these were small lots presented by friends of the Museum. Among the most important purchases should be noted a large collection of Swiss Lake Dweller material secured by Mr. Nelson while in Europe last year, a large anatomical collection purchased from Mr. J. F. G. Umlauff in Hamburg, and a large totem pole from the Tsimshian Indians.

Among the most important accessions received by gift are collections of pottery and stone implements presented by Professor Flinders Petrie; a series of archæological specimens from England, presented by J. Reid Moir; a valuable manuscript on Indian mythology presented by Ellis Parker Butler; an ethnological collection from Argentine by Mr. and Mrs. W. M. Baldwin; a collection of Lake Dweller material from Switzerland presented by M. Paul Wernert; a collection of negatives of archæological remains in Utah and Arizona, ethnological material, etc., by Mr. B. T. B. Hyde; and an archæological collection from Mexico by Mr. John M. Muir.

Cataloguing, Storage Loans

The greater part of the collections received in the course of the year were catalogued by Messrs. Sabine and Hoover. This does not, however, include the large field collections returned by Messrs. Morris and Sullivan, and the additional anatomical material acquired by purchase. The whole of this is still to be catalogued, the chief difficulty being lack of room in which to handle it.

The American archæological storage and study collections are being worked over by Mr. Nelson, assisted by Mrs. Nelson and Mr. Hoover, the greater part of the material for Eastern United States having been checked over to date and its storage revised. The remodeling of the table cases in the Eastern

Woodland Hall is practically complete and will provide for the storage of most of the material from Eastern United States.

Mr. Mead reports the cataloguing of all the accessions for Mexico and Peru, and the model of an Inca figure completed, colored and placed on exhibition. He also reports that classes in design and art continue to make extensive use of the Peruvian and other collections and that in this connection he has given a number of demonstrations in the exhibition halls. More than 2,000 specimens were handled for this purpose.

The modeling of the figures for the Navajo group has proceeded during the year. Mr. Mahonri Young has completed six human and two animal figures, which have been cast in plaster, ready for coloring. The ceremonial lodge was erected and covered under the direction of Mr. McCormick. Everything is now in hand for the early completion of the group.

Exhibition

At the special direction of President Osborn, a model was prepared by Mr. Howard McCormick to illustrate the improvements that are possible in the architecture and lighting in the Southwest Hall, and suggesting also a rearrangement of the casing.

Supplementary label copy for the Northwest Coast Hall was prepared and some revision of the exhibition carried out.

Mr. Nelson revised the archæological exhibit for Greater New York and made several additions to the chronological Old World series in the Archæological Hall.

The installation of the special exhibit of racial types originally outlined by Dr. Sullivan was continued during the year. The sections for Polynesia, Indonesia, and Malaysia are practically complete and awaiting the printing of labels. Three additional sections, for the Eskimo, American Indian, and American white, are nearing completion. Full-size figures, of an Eskimo and of an American Indian, have been completed. We now have a racial series composed of the following types: Hawaiian, Eastern Indian, Western Indian, Eskimo, Bushmen, North European White. All of these have been colored by the Department of Preparation and are ready for labels and for installation.

Three Indian figures, two men and one woman, were completed for exchange with Australian Museums.

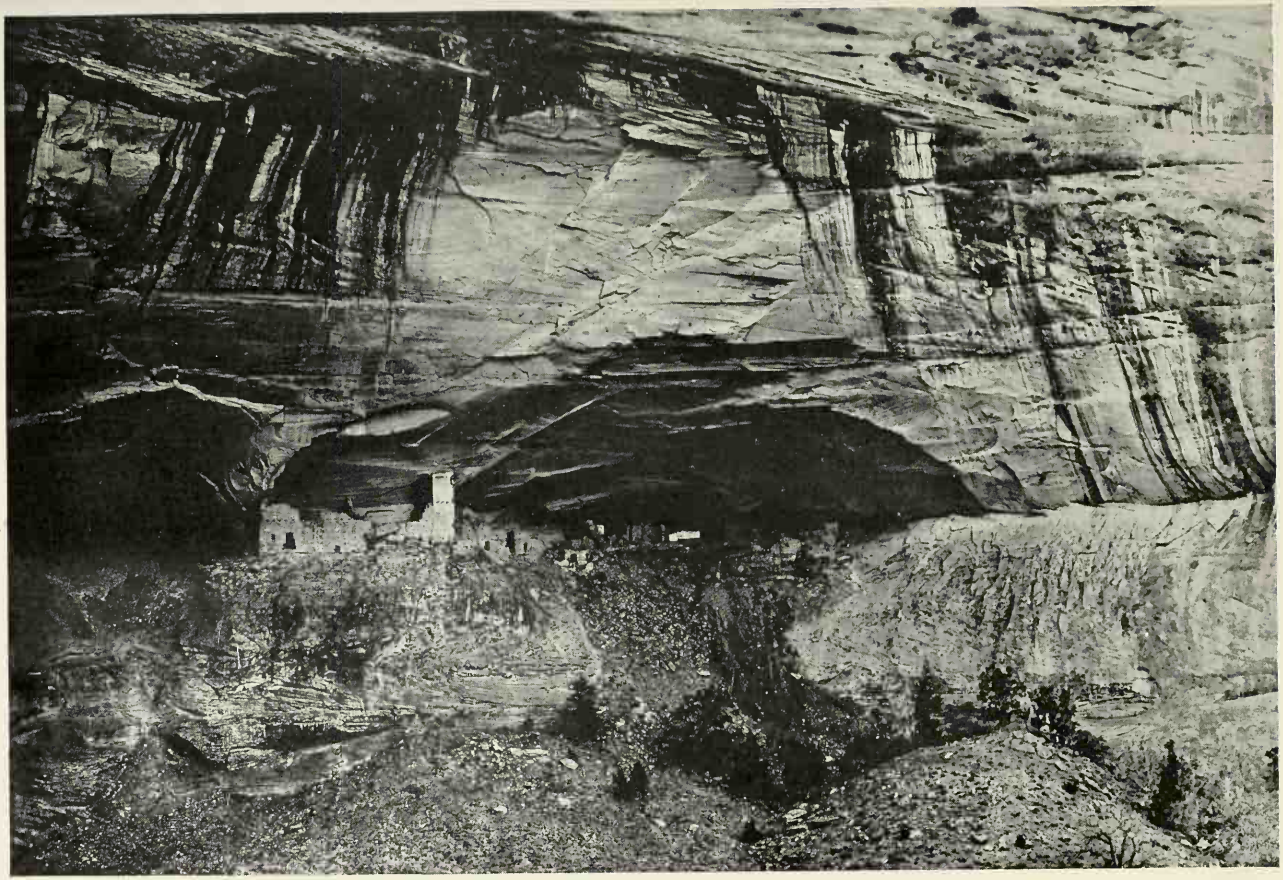
Expeditions

The Department sent out seven expeditions during the year: the Third Bernheimer expedition to northern Arizona; archæological excavation on the Navajo Indian Reservation; explorations in Canyon del Muerto; excavation of burial mounds in New Mexico; archæological exploration in Missouri and Kentucky; ethnological investigation among the Navajo; and an investigation of racial types in Arizona and California.

1. The Third Bernheimer Expedition: Mr. Morris accompanied Mr. Charles L. Bernheimer in June to explore the canyons of the Carisso Mountains in northeastern Arizona. This exploration revealed unusually promising archæological sites not heretofore explored. One of these is a burial ground containing at least one thousand burials belonging to the intermediate period of Southwestern culture. On the south side of the Carisso range is a network of small canyons in which more than 150 ruin sites were located. Many of these are of Cliff Dweller type; such of these sites as were sampled proved to be rich in material. It was also possible to visit the Tunicha range to the south, where a second network of canyons was discovered, and an excursion was made to Canyon del Muerto, where several rich deposits of material were found, particularly at Mummy Cave.

2. Archaeological Excavation on the Navajo Reservation: This expedition was in charge of Mr. Morris, who was accompanied by Dr. Sullivan. In July, excavations were begun near Shiprock, New Mexico, on the Navajo Reservation, under a permit held for that work. The chief objective was the excavation of burials on this site and the collection of skeleton material, and on this account Mr. Morris was joined by Dr. Sullivan. The skeleton yield was not entirely satisfactory, since, because of unfavorable conditions, the skeletons were fragmentary. However, at this site a trephined skull was discovered, which is of considerable importance, since it is the first example of such surgery from the Southwest.

3. Exploration in Canyon del Muerto. In September, Mr. Morris returned to Canyon del Muerto, Arizona, for a more extensive examination of Mummy Cave as observed by him and Mr. Bernheimer. A special permit for this work was secured from the Government and excavations were carried on by Mr. Morris until December. A full report on this work is not at hand, but the



DEPARTMENT OF ANTHROPOLOGY

MUMMY CAVE, CANYON DEL MUERTO, ARIZONA

specimen yield was excellent and the stratigraphic data obtained will be of unusual importance.

4.-5. Excavation of Burial Mounds in New Mexico, and an Investigation of Racial Types in Arizona and California. The field studies conducted by Dr. Sullivan falling under the above heads are covered by his reports as follows:

"In July I went to the Navajo Reservation near Shiprock, New Mexico, to visit the work being carried on by Mr. Morris. The skeletal material here did not lend itself well to preservation and it was with considerable difficulty that Mr. Morris saved enough to show the nature of the problem. Enough material was saved or examined in situ to enable us to say that at least two and probably three different physical types of Indians had preceded the Navajo occupation of that vicinity.

September and a portion of August and October were spent in digging up skeletal material at the ruin known as San Cristobal, near Lamy, New Mexico. At this site some 350 skeletons were removed, but of this number only about 200 were fit, in whole or part, for shipment to New York. These, with the samples already collected at this site by Mr. Nelson, gave us a fine working collection for this particular type of Pueblo peoples. In the course of the work, several pots, countless bone implements and other archæological artifacts were collected. Here too a second specimen of trephining was unearthed. While the operation in this skull was not as extensive as that of the Shiprock find, nor was the reason for its performance so obvious, nevertheless this skull was of considerable interest because it differed markedly from any other skull taken from this site. At the beginning of this work I had very valuable assistance from and guidance by Mr. Nelson. I also received valuable assistance in packing from Mrs. Nelson.

Mr. B. F. Pankey, the owner of the site, continued to show his interest in this type of work and encouraged it by repeated visits and by much practical assistance. The home ranch house was turned over to us for living quarters. This was especially appreciated this year on account of the unusual amount of rainy, cold, and windy weather. Several of his storehouses were also put at our disposal. His foreman and ranchmen assisted us in the work in many ways.

During January, February, and March, some time was spent in making anthropological examinations of the Mexican and Indian school children in Tuscon, Arizona. This work was started in the Fall of 1922, in conjunction with a psychological survey by Professor F. C. Paschal of the University of Arizona. Approximately 600 children were given individual anthropological examinations and psychological tests. This work resulted in a joint paper by Professor Paschal and myself, which points out some interesting

results on the effect of race and environment on the mental and physical status of the Mexicans.

April and a part of May were spent in extending the study of the teeth to the immigrant peoples of Fresno County, California. Large numbers of Armenians, Russians, Germans, Slavonians, Italians, and smaller samples of twenty-seven other national groups were studied. The form of the teeth promises some most valuable racial differences and a detailed knowledge of their form in representative racial and national groups promises to throw considerable light on the history of the races. A more extended knowledge of the teeth in different racial groups is essential for the solution of the problems raised by the Polynesian work carried on by the Department during the past few years. It is a particularly fitting problem to undertake at this time, since it fits in with the programs of Dr. Milo Hellman and Dr. W. K. Gregory, who are also working on human and anthropoid dentition."

6. Ethnological Investigation among the Navajo. Ethnological studies among the Navajo were conducted by Dr. Goddard, who reports:

"A field trip to the Navajo near Shiprock, New Mexico, was made possible by a gift of Mrs. Willard Straight for the specific purpose. An interesting ceremony was witnessed, one rarely seen and never recorded. A side trip to Canyon de Chelly gave an opportunity to inspect the site of the Navajo group now nearing completion. Considerable information as to social and ceremonial life was secured and many pages of Navajo text describing the creation of the world recorded. Of particular interest in this text are incidents placed in the well known ruins of the Las Animas Valley and Chaco Canyon. It is hoped that field-work among the Navajo may be continued next year, since the same excellent informant and interpreter will probably be available.

Through the cooperation of the Southwest Society and Dr. Elsie Clews Parsons, Mr. Owen Cattell was sent to Zuni late in November and there secured a moving picture record of Shalako, the most important Zuni ceremony."

7. Archaeological Exploration in Missouri and Kentucky. From August 23 to October 31, Mr. Nelson was engaged in archæological explorations. First, he joined Dr. Sullivan in New Mexico, spending a few days in advising him as to the burial sites in which explorations were to be made. Mr. Nelson then went to Pineville, Missouri, where excavations were begun in Jacobs Cavern. Three weeks were spent in trenching the talus to this cavern and in trial trenches within the cave itself. Mr. Nelson was joined by Dr. Vernon C. Allison of the Bureau of Mines

in Pittsburgh, who is making a special study of the stalagmite deposits in this cave. One of the large stalagmites was removed from the cavern and forwarded to Dr. Allison in Pittsburgh for future study. The talus and the cave did not yield important stratigraphic results. Unfortunately, the talus proved to be shallow with no differentiation of materials as to depth. The work in the cave was also negative in that no chronological distinctions could be made.

The next objective was Mammoth Cave, Kentucky, but on the way, the famous Peoria flint quarry in Oklahoma was examined and collections made. The explorations in the vicinity of Mammoth Cave brought to light old flint workings of some interest. About three weeks were spent in exploring these flint workings which seem to have some indications of antiquity. On the return trip several of the large caverns in Virginia were visited.

A number of research projects were carried on during the year. Dr. Waldemar Jochelson continued his work upon the Jesup North Pacific Expedition publications until August first. Arrangements were made by which Mrs. Jochelson assisted him in this work and made some necessary anthropometric calculations for Professor Boas to be used in the final volume of this series. Since August first, Dr. Jochelson has been working on the archæology of the Aleutian Islands under a grant from the Carnegie Institution of Washington.

Research Work

As stated elsewhere in this report, Dr. Vernon C. Allison of the Bureau of Mines, Pittsburgh, will continue his study of stalagmite growth.

Dr. Milo Hellman, research associate in anthropology, has continued his study of dentition, though the greater part of his time has been devoted to certain comparative studies in conjunction with the Department of Anatomy.

Aside from a number of minor research problems carried out during the year, special mention should be made of the work under the grant from the National Research Council for the investigation of problems in the distribution of populations and the crossing of races.

A manuscript for a *Handbook* on the Indians of the North Pacific Coast was completed by Dr. Goddard, and a manuscript for a *handbook* on Prehistoric Peru was prepared by Mr. Mead. These are ready for publication.

Publications

The following were issued during the year: "Essentials of

Anthropometry," by L. R. Sullivan (special publication); "The Ancient Quipu or Peruvian Knot Record," by L. Leland Locke (special publication); "Laguna Genealogies," by Elsie Clews Parsons (*Anthropological Papers,* American Museum of Natural History, Vol. XIX, part V).

Acknowledgments of courtesies extended to members of the Department are gratefully made to the following:

Mr. Robert Tomlinson, Kispiox, British Columbia, Canada, for assistance to Dr. Goddard in securing a totem pole from the Tsimshian Indians.

Mr. B. F. Pankey, Lamy, New Mexico, for permission to excavate burial mounds at the San Cristobal Ruins situated on Mr. Pankey's ranch; for providing living quarters and storage space; and for permitting his foreman and ranchmen to assist Dr. Sullivan in many ways.

Mr. Albert Covington Janin, of Mammoth Cave, Kentucky, a Trustee of the Mammoth Cave Estate, extended many courtesies to Mr. Nelson during his recent visit to the cave.

Mr. E. Y. Guernsey of Bedford, Indiana, at the request of the Museum, visited and examined an archæological site in Jennings County, Indiana.

The following gentlemen coöperated very cordially with Dr. Sullivan during his study of racial types among the children in Fresno, California: W. J. Cooper, Superintendent of Schools, Fresno; F. H. Sutton, Principal, Fresno Technical High School, and Mr. I. W. Cappleman, Principal, Kirk School, Fresno.

Professor F. C. Paschal, University of Arizona, Tucson, for coöperating with Dr. Sullivan in a psychological and anthropological analysis of Mexican school children in Tucson.

The outside activities of the staff were:

Dr. Wissler gave a lecture at the Metropolitan Museum of Art on Primitive Art.

Dr. Wissler represented the American Museum at the conference on Indian Affairs called by Secretary Work. He is also a vice-president of the N. Y. Academy of Sciences.

Mr. N. C. Nelson is Treasurer of the American Ethnological Society.

COMPARATIVE ANATOMY

WILLIAM K. GREGORY, Curator

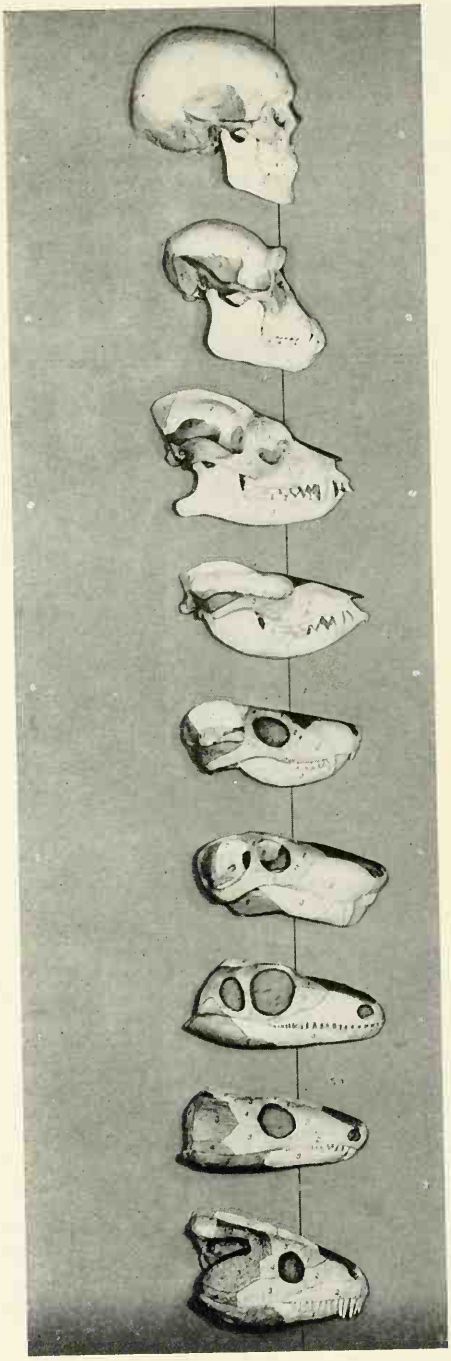
The return of Mr. H. C. Raven, Field Representative of the First Australian Expedition, with all collections intact, and the receipt of considerable exchange material from several Australian museums, brought much nearer the realization of the plans for an Australian Hall in this Museum. The localities visited by the Expedition, or from which material was secured, are indicated on the accompanying map. As soon as Mr. Raven returned from Australia, he set about putting his collections in order and arranging for their installation and preservation. The greater part of the more than two thousand specimens of vertebrates, with field notes, were turned over to the departments of Mammalogy, Herpetology, Ornithology, Anthropology, Ichthyology and Vertebrate Palæontology, the remainder being retained in the Department of Comparative Anatomy. A temporary exhibit of the Australian material, filling fourteen A-cases, was placed in the Forestry Hall.

By arrangement with the Department of Mammalogy, Mr. Raven undertook and has very vigorously pushed forward the work of identifying, cataloguing and describing the mammals he collected in Australia. This collection includes representatives of most of the Australian genera, including beautifully preserved skins, an unusually complete series of skeletons, and a series of two hundred and forty prepared anatomical specimens preserved in liquid. By the end of the year 1923, Mr. Raven had cleaned twenty-six skeletons and about three hundred skulls for the study collections. He also identified and catalogued the fossil mammals received in exchange from Australian museums. He compiled an extensive digest of the literature of the Marsupials and has completed the section on the Macropodidæ or kangaroos; he has also made good progress on a systematic revision of this group, which will form the basis both for a series of papers on the evolution of the kangaroos and for an exhibit illustrating the remarkable adaptations of the various genera for different modes of life.

With regard to the proposed Australian Hall (described by Curator Gregory in the January-February number of *Natural History,* 1924) the object will be to give the visitor a vivid impression of the more salient features of Australia, rather than to overwhelm him with the vast deposit of details that conceals Australia in the encyclopedias. It is planned that the hall shall contain mounted groups of some of the more famous mammals and birds, along with several groups showing the life of the aboriginal inhabitants; relief models and a few selected specimens will serve to illustrate the physical geography and elementary geology; a part of the hall will be devoted to views of Australia as it is today, with its great cities and its principal products, while large photographs will show the clearing of the land and the devastation wrought upon the native fauna. Accordingly, plans for several habitat groups of Australian mammals were worked out and the kangaroo group was well started, but owing to the pressure of prior work in the Department of Preparation, it has not been completed.

While in Australia the Curator arranged a number of exchanges, which during the past two years have been largely consummated. The American Museum has sent to several Australian museums accurate replicas of the great skull of *Tyrannosaurus,* original limb bones of the huge *Brontosaurus,* model restorations of *Camarasaurus,* complete and beautifully executed models of two Indians of the Plains, a life-size replica of the skeleton of the great fossil amphibian, *Eryops,* a series of Professor McGregor's restorations of prehistoric men, and other material.

On their part the Australian museums have sent the American Museum a replica of the skeleton of the giant marsupial *Diprotodon,* an original skull of the so-called marsupial lion, *Thylacoleo,* original remains of *Diprotodon* and other extinct marsupials, an extensive series of casts of type specimens of extinct marsupials described by Owen, and some fine slabs containing fossil ganoid fishes of peculiar type. Models of two full-length figures of Australian aboriginals have also been received, while a replica of the skelton of Truganini, the "last of the Tasmanians," a series of busts of Australian aboriginals and a large collection of photographs of aboriginals have been offered and ac-



DEPARTMENT OF COMPARATIVE ANATOMY

COMPARATIVE ANATOMY OF THE HUMAN SKULL AND NINE STRUCTURAL STAGES IN ITS EVOLUTION FROM LOWER FORMS

cepted. Thus the Australian naturalists have been more than generous in helping the Museum to fill the gaps in its collection of mammals, and have sent a number of very important and rare marsupials not hitherto represented. Of scarcely less value has been the exchange of scientific ideas and information and the promise of continued coöperation.

Professor McGregor, with the assistance of Miss Marcelle Roigneau, prepared three exhibition series of half-sections of the skulls of prehistoric races, one showing the outer half of the skull and jaw, a second showing the inner view of the relations of the braincase to the face, a third showing half-sections of the lower jaw, illustrating the evolution of the human chin.

Miss Roigneau made enlarged models of the skulls of *Notharctus* and *Didelphis* for the series illustrating the evolution of the human skull; she colored this entire series of models, including four duplicate sets. She did much other accurate work in coloring casts and has made the drawings for several papers by Drs. Gregory, Noble and Romer.

Mr. Otto Falkenbach has made a large series of casts of the skulls of recent and prehistoric men and anthropoids, together with casts of the brain cavity, for exhibition and exchange. He made a carefully reconstructed model of the skull and jaw of the extinct anthropoid *Dryopithecus fontani*. He also completed the casts of the models of the *Cynognathus* and *Seymouria* skeletons and a long series of casts of enlarged models of skulls illustrating successive stages in the evolution of the skull, from the oldest known reptiles to man.

A summary of the work of Assistant Curator Chubb, in charge of the extensive osteological collection of recent Equidæ, is as follows: Many important additions to the study collection have been prepared, including the skeletons of a giant horse and of an Arabian horse. In all, twenty-two days' work was devoted to the trotting horse skeleton "Lee Axworthy," in process of construction; twenty days to the Prezwalsky horse skeleton, eight days to the Norse horse skeleton, all important exhibition specimens. Twenty-five days were spent in sectioning teeth of modern and fossil Equidae. Many photographs of horses in action were taken. Fourteen days were devoted to educational work in exhibition halls and laboratory, with students from various colleges and schools and other specially interested persons.

Mr. Raven has injected and prepared for anatomical study many mammals received from the New York Zoological Society and elsewhere. In collaboration with Mrs. Fink, he has planned the arrangement and installation of the future offices, lecture room, laboratory and storerooms of the Department in the new building. He gave an illustrated talk before the Explorers Club on "Australian Marsupials and Their Environment," and addressed the Linnaean Society on the same subject.

The collection of casts of prehistoric human remains, which has received many accessions during the past year, including gifts from Professor J. H. McGregor, have been catalogued.

Through the New York Zoological Society two hundred and eighty-one specimens were received and distributed to the various departments of the Museum and to the Prosector of the New York Zoological Society.

Professor J. H. McGregor made a brief trip to Holland in September, to take advantage of a courteous invitation, originally extended by Professor Eugen Dubois to President Osborn, to study the famous original remains of the *Pithecanthropus erectus,* or "Javan Ape Man," as well as the skulls of the prehistoric "Wadjak" race. By his hospitality and courtesy to Professor McGregor, Professor Dubois has highly gratified his scientific colleagues in this country and abroad, since Professor McGregor's critical examination of the specimens has left no doubt as to their extreme importance in the study of human prehistory.

During the first half of 1923, Dr. A. S. Romer completed the models of five stages in the series illustrating the evolution of the human skull. His important paper on "The Locomotor Apparatus of certain primitive and mammal-like reptiles" was completed and subsequently appeared in the Museum *Bulletin.* He also published papers on the "Morphology of the Mammalian Coracoid," "The Ilium in Dinosaurs and Birds," "Crocodilian Pelvic Muscles and Their Avian and Reptilian Homologues," and on "The Pelvic Musculature of Saurischian Dinosaurs," the latter revising and carrying to a satisfactory conclusion studies begun long ago by the Curator. During the summer he visited some of the principal museums in Germany and England, studying especially the Palæozoic reptiles and amphibians, and conferring with Professor D. M. S. Watson and other high authori-

ties on these earliest land-living vertebrates. In September, he took up his new duties as Associate Professor of Vertebrate Palæontology at the University of Chicago, succeeding the late Professor Williston as Curator of the Walker Museum collection of fossil vertebrates. It is naturally a source of great satisfaction that the Museum is serving as a training school in comparative anatomy and palæontology for young men who are now filling high stations in these branches of science.

Dr. D. S. Morton completed Part II of his important "Studies on the Evolution of the Human Foot," which are being published in the *American Journal of Physical Anthropology*. In this work he made effective use of the invaluable gorilla anatomical material recently collected by Mr. Akeley, as well as of the feet of the famous gorilla "John Daniel," whose body was generously donated to the Museum by the Ringling Brothers. Dr. Morton finds that in many important structural features the feet of full-grown gorillas are specially adapted for walking on the ground, and thus afford certain significant resemblances to the human foot.

Dr. Milo Hellman, in collaboration with the Curator, published in the Museum *Bulletin* a paper entitled "Further Notes on the Molars of *Hesperopithecus* and of *Pithecanthropus*." Dr. Hellman and the Curator also undertook an intensive biometrical study of the jaws and teeth of certain extinct anthropoid apes collected by Mr. Barnum Brown in India.

The Curator collaborated with the Department of Anthropology in preparing plans for the Introduction to the Study of Man, and the exhibit of models illustrating the evolution of the human skull was completed.

As Associate in the Department of Vertebrate Palæontology, Dr. Gregory described the skull of *Protoceratops andrewsi* and assisted in the study of the skeletons of *Baluchitherium, Psittacosaurus, Triceratops,* and also in the work of the artists in making life restorations of the Mongolian fossils. Much material for exhibition in the Hall of the Age of Man was accumulated; in collaboration with Doctor Lucas, the Guide to the Hall of the Age of Man by President Osborn was revised, extended, and a new edition brought out.

Papers on "A Jurassic Fish Fauna from Western Cuba, with an Arrangement of the Families of Holostean Ganoid Fishes"

and one on "The Carpus of *Eryops* and the Structure of the Primitive Chiropterygium," in collaboration with Doctors Miner and Noble, were published. A paper on "The Origin of the Mammalian Alisphenoid Bone," in collaboration with Dr. Noble, was completed.

Among popular publications designed to familiarize the facts of natural science, especially evolution, the Curator published in the *Yale Review* a paper on "Design in Nature." He also assisted in the selection and preparation of material and illustrations for the series of articles by E. E. Free in *Popular Science Monthly,* and, jointly with Professor Osborn, in the story of the "Dawn Man," by Hugh Weir, in *McClure's Magazine,* as well as in a number of newspaper articles by various reporters.

Activities of the Staff

Curator William K. Gregory served as Secretary of the Galton Society and as a Vice-President of the New York Academy of Sciences, also as Secretary of the Museum Journal Club. As Secretary of the Williston Memorial Committee, he succeeded in securing publication for Doctor Williston's "Osteology of the Reptiles," which has been accepted by the Harvard University Press. The publication of the Williston Memorial Volume, after six years of effort, was given up on the vote of the majority of the Memorial Committee and manuscripts returned to authors.

Dr. Gregory was elected a member of the International Association for Dental Research, of the David Black Society of the University of California, and was reëlected to the Advisory Council of the Eugenics Committee of the United States.

By request of the staff of the Department of Neurology, Columbia University, he delivered a series of evening lectures on "The Evolution of the Locomotor Apparatus of Vertebrates" and another series on "The Evolution of the Skull of Vertebrates." By invitation of the New York Academy of Dentistry, he addressed the Academy on "Some Critical Stages in the Evolution of the Human Dental Apparatus." He gave an illustrated talk at the Explorers' Club on "Australia and its Mammalian Fauna" and read a paper before the Linnæan Society on "Human and Natural Designs." He opened the course of University Extension lectures at Freeport, Long Island, speaking on the topic "Was Darwin Right?" He addressed the New

York High School students on "Darwin and Evolution," and gave several lectures at the Dewey School of Orthodontia on "The Evolution of the Human Dental Apparatus."

Mr. Raven's field work in Australia was highly successful in spite of the difficult conditions at present confronting foreign museum collectors in Australia. Through the liberal policy and active coöperation of the directors of several Australian museums and government officials he was enabled to secure permits to collect a limited and specified number of specimens in Queensland, New South Wales and Tasmania. For such active and timely coöperation and assistance to Mr. Raven, the Museum is deeply indebted to the following gentlemen: Dr. Thomas Storey Dixson, President; Dr. Charles Anderson, Director; Mr. Charles Hedley and the entire staff of the Australian Museum at Sydney; Professor Launcelot Harrison, Sydney University; Dr. A. H. Burckitt, of the School of Medicine, of that institution; Mr. A. H. Chisholm, of the *Sydney Daily Telegraph;* Mr. Ellis S. Joseph, Sydney; Mr. Harry Burrell, Sydney; Mr. A. S. Le Souëf, Taronga Zoölogical Park; Mr. Heber Longman, director of the Queensland Museum, and Mr. M. J. Colclough, of that institution; Mr. William Gray, North Queensland; Professor F. Wood Jones, University of Adelaide; Mr. H. H. Scott, curator of the Victoria Museum and Art Gallery, Launceston; Dr. Ray McClinton, Launceston; Professor T. T. Flynn and Colonel Thomas, University of Tasmania; Mr. E. Burles, manager of the Arthur River Sawmill, Tasmania.

Acknowledgment of Courtesies to the Museum

THE LIBRARY

RALPH W. TOWER, Curator

The passing of another year has left in its wake the results of the activities within the Department, most of which are of a perfunctory and detailed type and without particular interest. In general a retrospect points to decided progress in several branches. The year has been unusually productive in the acquisition of many desirable and much sought classics, as well as several series of scientific periodicals. The number of volumes added by gift, exchange and purchase has totalled 3,557, which indicates only a consistent and normal growth of this storehouse of natural history knowledge.

The Library, as in previous years, has been enhanced in prestige and value by the benevolence of Mr. Ogden Mills who has presented:

Bloch, Marc Eliéser. *Ichtyologie, ou Histoire Naturelle, Générale et Particulière de Poissons.* Volumes 1-12. Folio. Berlin. 1785-1797.

Frauenfeld, Georg Ritter von. *Neu Aufgefundene Abbilding des Dronte . . .* Wien. 1868.

Martyn, Thomas. *Psyche Figures of Nondescript Lepidopterous Insects, or Rare Moths and Butterflies from Different Parts of the World.* Folio. London. 1797.

Those who are acquainted with the literature of this branch of science will particularly appreciate the acquisition of these volumes which have come into our possession through the generosity of Mr. Ogden Mills.

Mr. James B. Ford has given to the Library that unique and now famous volume:

Peale, Titian R. *United States Exploring Expedition Mammalia and Ornithology.* Philadelphia, 1848.

The Library of the Museum is most fortunate in becoming the owner of a copy of this work; the entire edition was suppressed at the time of publication, only a few copies getting into circulation.

The Anson W. Hard Fund has provided two important titles:

Brünnich, Morten Thrane. *Ornithologia Borealis.* Hafniæ. 1764.

Hübner, Jacot. *Der Sammlung europäischer Schmetterlinge Horde* 1-8. 1796-1830.

Through the courtesy of Director F. A. Lucas the Library received:

Laskowski, Sigismond. *Anatomie Normale du Corps Humain Text et Atlas.* 4to. and Elephant Folio. Genève, 1894.

Other interesting works acquired through the year are here listed:

Archiv für Pathologische Anatomie und Physiologie und für Klinische Medizin (Virchow's Archiv) Bände 1-219. 1847-1915.

Bulletin de la Société Historique et Archéologique du Périgord. Tomes 1-47. 1874-1920.

Bulletin de la Société d'Anthropologie de Bruxelles. Tomes 1-35. 1882-1920.

Bulletin de la Société d'Histoire Naturelle de Colmar. 1860-1917.

Herbst, Johann Friedrich Wilhelm. *Natursystem aller bekannten in- und ausländischen Insekten . . .* von Carl Gustav Jablonsky, und fortgesetgt von Johann Friedrich Wilhelm Herbst. Käfer: Theilen 1-10. Berlin. 1785-1806.

Journal of the Asiatic Society of Bengal. Volumes 1-49. 1832-1904.

Journal of The North-China Branch of the Royal Asiatic Society. Volumes 1-52. 1858-1921.

Proceedings of The Asiatic Society of Bengal. 1866-1880.

Levaillant, François. *Histoire Naturelle des Perroquets.* Tomes 1-3. Paris. 1801-1805.

Macquart, Pierre Justin Marie. *Diptères Exotiques nouveaux ou peu connus.* Tomes 1-2 with Supplements 1-5. Paris. 1838-1855.

Magnus, Albertus. *De Animalibus.* Venezia. 1495.

Spix, Johann Baptiste von & Martius, C. F. Phil von. *Travels in Brazil in the years* 1817-1820. Translated from the German by H. E. Lloyd. Volumes 1-2. London. 1824.

The year has witnessed some important rearrangements in the stacking of the books. Concentration of shelf room has become more and more necessary and the time is fast approaching when an addition to our physical equipment will be absolutely necessary.

Publications

The publications of the American Museum of Natural History for 1923 have been the *Annual Report, Bulletin, Anthropological Papers, Novitates, Monographs, Natural History*—the Journal of the American Museum of Natural History—*Handbooks, Guide Leaflets* and Reprints.

The *Bulletin* is devoted to the final results of field and laboratory work. The *Bulletin* issued during 1923 was Volume XLVIII, containing 637 pages of text, 36 plates and 261 figures. This volume is divided into 20 articles of which one is devoted to Ichthyology, 3 to Ornithology, 3 to Invertebrate Zoology, 4 to Comparative Anatomy, 1 to Herpetology, 8 to Paleontology. Part I of Volume XLIX, devoted to Belgian Congo reports, containing 146 pages, 22 plates and 15 text figures, appeared in July.

The American Museum *Novitates* are used for the rapid publication of preliminary announcements and descriptions of new forms. Fifty numbers were published during 1923—more than double the number issued in 1922, and in addition there appeared a title page and index to Nos. 1 to 36. The numbers totaled 402 pages of text and 138 figures, and of these 7 were on Ornithology, 5 on Mammalogy, 15 on Invertebrate Zoology, 6 on Ichthyology, 4 on Herpetology and 17 on Paleontology.

The *Anthropological Papers* are devoted entirely to the results of field work and other researches conducted by the staff of the Department of Anthropology. Although only one paper appeared this year in the series, namely, Laguna Genealogies, by Elsie Clews Parsons, the subject of Anthropology was not as entirely neglected as it would appear. A book bound in blue cloth and entitled "The Ancient Quipu or Peruvian Knot Record," by L. Leland Locke, appeared as the first of our newly planned monographs, not limited by either serial name or number. A handbook for workers in Physical Anthropology was also published, under the title "Essentials of Anthropometry," by L. R. Sullivan.

Handbook No. 9, "Birds of the New York City Region," published in September, has filled a long felt need in our series, and has already had a very wide sale.

General Guide

Three new *Guide Leaflets* have been added to the series, No. 56, "Geology of New York City and Vicinity"; No. 57, "Guide to the Hall of Mammals"; No. 58, "Preparation of Birds for Study." New editions were issued of *Guide Leaflet* No. 52, "Hall of the Age of Man"; No. 38, "Our Common Butterflies"; and No. 36, "Evolution of the Horse."

Natural History is now beginning its twenty-fourth volume.

Two articles published in *Natural History* were also issued as Reprints, namely, "Mastodons of the Hudson Highlands," by Henry Fairfield Osborn, and "Seasonal Records of Geologic Time," by C. A. Reeds.

The Osborn Library issued in 1923 Volume VII of "Fossil Vertebrates." This branch of the Library received 395 accessions during the year.

Division of Printing

The Division of Printing has done capacity work throughout the year. With the exception of the *Annual Report,* all the printing of the institution has been done in this department. This work may be conveniently grouped into three sections: Scientific Publications (*Anthropological Papers, Bulletin, American Museum Novitates,* and *Monographs*), Popular Publications (*Guide Leaflets, Handbooks* and the bi-monthly journal *Natural History*), Miscellaneous (Labels, Lecture Announcements, Stationery, Administrative Reports, etc.). Minor changes have occurred in the personnel. During the summer needed added space was acquired by annexing a portion of the neighboring corridor. With the increased activity and the installation of new machinery additional room will soon be needed.

ACCESSIONS, 1923

DEPARTMENT OF PUBLIC EDUCATION

By Gift

American Relief Administration, New York City.
94 Photographs.

Miss Mary Appleton, Newport, R. I.
Collection of California pressed flowers.

Atchison, Topeka & Santa Fé Railway, Chicago, Ill.
53 Colored slides.

Birdcraft Sanctuary, Fairfield, Conn.
20 Native Birds.

Mrs. Elizabeth Britton, New York City.
2 Plain and 1 colored lantern slides.

Miss Laura Broomall, Far Rockaway, L. I.
1 Towhee and 3 other birds, in the flesh.

Dr. W. W. Campbell, Mt. Hamilton, Cal.
3 Photographic transparencies of an eclipse of the sun.

Canadian Pacific Railway, New York City.
169 Colored lantern slides of scenes in Canada.

Eastman Kodak Co., Rochester, N. Y.
12 Enlargements of mammal photographs taken by Norman McClintock.

Paul Engel, New York City.
Red-tail Hawk, Marsh Hawk, 2 Broadwing Hawks.

Mrs. A. Gemmer, New York City.
Great Horned Owl and Cooper's Hawk (mounted).

Hammermill Paper Co.
43 Photographs.

Hartford Rubber Works Co.
25 Samples of crude and vulcanized rubber and 2 descriptive booklets.

Joseph Hernsheim, New York City.
Miscellaneous mineral collection.

R. H. Howland, Upper Montclair, N. J.
Louisiana Water-thrush, in the flesh.

Charles E. Johnson, Lawrence, Kans.
6 Enlargements from negatives belonging to Mr. Johnson.

Mr. and Mrs. Martin Johnson, New York City.
7 Reels of motion picture films of African wild animals.

Lick Observatory, Mt. Hamilton, Cal.
Transparency of Solar Prominences of May 18, 1901.

F. S. Lotto, Flushing, L. I.
Mounted Parrot.

Henry Mueller, West Nyack, N. Y.
Woodchuck, in the flesh.

David J. Newland, San Diego, Cal.
Hummingbird's nest, from California.

George Parmly, East Orange, N. J.
Ostrich egg and 2 Stork eggs.
Collection of shells.

Pathé Exchange, Inc.
Positive print of 79 feet of motion picture film—Cartoon of Earthquake in Chile.

Armstrong Perry, Washington, D. C.
6 Photographs.

William R. Peters, Oyster Bay, L. I.
Hornets' nest.

George D. Pratt, Brooklyn, N. Y.
5 Reels motion picture film of Alaska.

Richard Pratt, New York City.
3 Mice—mother and young.
Slate-colored Junco.

Prizma, Inc.
1 Reel colored motion pictures, "Wonderful Water."

Henry Stockman Robinson, Bayhead, N. J.
Laughing Gull, in the flesh.

Stanley J. Rowland, New York City.
Ring-necked Pheasant, in the flesh.

M. P. Skinner, Yellowstone Park, Wyo.
110 Photographs, Yellowstone, Wyo.

Swift & Co., Chicago, Ill.
18 Plain slides on "Meat Packing" (through R. D. Hebb).
38 Colored slides (Public Relations Department).

Miss Jeannette Vermeaton, New York City,
Pigeon, in the flesh.

Edward O. Wagner, (through Mrs. H. A. Kidder).
Mounted Butterflies, Beetles and other Insects, South America.

LEWIS WAYNE WALKER, Douglaston, L. I.
Crow's nest.

WARD BAKING CO., New York City.
17 Plain lantern slides.

THEODORE WEYHRAUCH, New York City.
Brown Bat, in the flesh.

MISS MONA WILD, New York City.
Maryland Yellow-throat.

YERKES OBSERVATORY, Williams Bay, Wis.
Transparency of "Flash Spectrum at Solar Eclipse of May 28, 1900."

DR. CHARLES H. YOUNG, New York City.
Photograph of female Gorilla and young.

By Purchase

340 Feet motion picture film, "A Giant in Fairyland."
1 Reel motion pictures, "A Jungle Joy Ride."
1 Reel motion pictures, "Vermont's Sweets."

DEPARTMENT OF GEOLOGY AND INVERTEBRATE PALÆONTOLOGY

By Gift

WILLIAM M. ALBERTI, New York City.
Samples of rock cuttings from shallow wells drilled north of La Grange, Texas.

DEPARTMENT OF ANTHROPOLOGY (Transfer).
Ammonites, fern impressions, flint with fossil markings, concretion resembling univalve cast, stone resembling a bone, from Danube Valley between Komorn and Kalocsa.

DR. W. H. BALLOU, Milford, Kan.
14+ Shaley limestone, Milford.
49+ Specimens Brachiopods, Pennsylvanian age.

W. BARAGWANATH, Melbourne, Australia.
14 Glaciated pebbles, Australia.

BOARD OF WATER SUPPLY, New York City.
Fossil seed-fern stump, from Gilboa, N. Y.

T. E. CAMPBELL, South Fork, Pa.
Lepidodendron, Pennsylvania.

S. J. CARP, Brooklyn, N. Y.
Spirifer mucronatus, Hamilton group, Bullville, Orange Co., N. Y.

JAMES L. CLARK, New York City.
Igneous and calcareous rock, Ngorongoro, Africa.

A. P. COLEMAN, Toronto, Canada.
Specimen of glaciation from the Dwyka tillite near Matjesfontein, Cape Colony.

COLUMBIA UNIVERSITY (through Prof. J. J. Galloway), New York City.
8 Fossil corals (*Petraia*). Black River age, from Limestone Island, Georgian Bay, Ontario.

GEORGE M. CORAM, Utica, N. Y.
Calcite and quartz, from Fall Brook Mine, Lyonsdale, N. Y.

ARTHUR D. GABAY, New York City.
3 Trays fossil plants and invertebrates, Pennsylvania and New York.

FRANK GILLISS, New York City.
Beach pebble of actinolite (hornblende) schist, Long Island Sound, near Greenport, L. I.

HUGH GILLIES, CYNTHIA, Harrison Co., Ky.
6 Specimens Bryozoa, Mississippian age, Cynthia, Ky.

DR. F. C. GRANGER, Randolph, Mass.
Polished longitudinal section of part of small Orthoceras.

ARTHUR HAYCOCK (through Mr. Paget), Bailey's Bay, Bermuda.
1 Land snail, 1 coral, 3 stalactites, 2 dark limestone specimens.

MRS. IRA L. HILL, New York City.
Silicified specimen of *Lithostrotion mamillare*, Edwards and Haine, South Macomb Farm, Ill.

H. W. HIXON, New York City.
23 Specimens of fossils, snails, and corals, British West Indies.

DR. E. O. HOVEY, New York City.
Schistose quartzite from snout of Illecillewaet Glacier, Glacier, B. C.

CLARENCE JOHNSON, Watertown, N. Y., and JEROME F. PAYNE, Gouverneur, N. Y.
Endoceras proteiforme Hall, Trenton limestone, from Watertown, N. Y.

DR. GEORGE F. KUNZ, New York City.
Pelecypod, Philippine Islands.

HERBERT LANG, New York City.
63 Pebbles, from diamond-bearing beds, British Guiana.

O. IVAN LEE, Newark, N. J.
Crystalline calcite stalactite, Todd's Cave, Peapack, N. J.

M. J. LYONS, Long Island City, N. Y.
Devonian rock containing shells of a marine brachiopod of the genus *Spirifer*.

F. E. Matthes, Washington, D. C.
5 Photographs of Yosemite Valley.

Joseph J. McCann, Saugerties, N. Y.
1 Specimen *Spirifer mucronatus,* Hamilton formation.

Thomas McLarnon, New York City.
3 Photographs showing the transfer of "Ahnighito" from 79th St. and North River to the Museum in 1907.

Department of Mineralogy (Transfer).
Meteorite (Magura) and a Trilobite, Pribram, Hungary.
4 Fulgurites, Oasis of Bilma, Sahara, Fulgurite, Mackinac City, Mich.

Mining and Geological Museum (through the Director, Dr. George W. Card), Sydney, Australia.
21 Rocks and ores, 19 fulgurites, and 3 meteorites (131 grams of Delegate, 129 grams of Molong, and 20 grams of Mount Dyrring), contorted Devonian phyllite.

Frank Moore, New York City.
2 Specimens fossil clam (*Mya arenaria*), North Lincolnshire iron pits, England.

Harry E. Mulliken, New York City.
Quartz pebble eroded, resembling skull, North Shore of Long Island, West of Oyster Bay.

C. O'Shaughnessy, New York City.
Fossil starfish, Middle Devonian age, Mogamp, N. Y.

Hermann Papke, Weehawken, N. J.
Corals and Brachiopods, Oriskany sandstone.

C. V. Pegram, Salem, N. C.
Itacolumyte (flexible sandstone), Stokes Co., N. C.

Albert Perrine, Jr., Freehold, N. J.
About 17 specimens fossils (*Belemnitella americana* Morton), Middle Cretaceous, Freehold.

Fred R. Pratt, Garland, Me.
Fossil shells, Pleistocene age.

H. B. Reed, New York City.
60+ Specimens of Ores and Rocks.

John T. Reid, Lovelock, Nev.
Photograph of "Triassic Shoe Sole."

Ritchie Bros., Saratoga Springs, N. Y.
2 Cryptozoan specimens, fossil algæ, from the Lower Paleozoic rocks of New York State.

Paul Rosler, New York City.
5 Pelecypods and 27 pebbles, Upper Tertiary, Melbourne, Wash.

Prof. R. Speight, Christ Church, New Zealand.
10 Enlargements of photographs of the Pink and the White Terraces, Lake Rotomahana, N. Z.

W. H. Staver, New York City.
2 Graptolites, from Santo Domingo gold mine, Province of Carabaya, Peru.

Telfair Stockton, Jacksonville, Fla.
Swamp muck and compressed hydrocarbon, from sand dune lake, near Gulf of Mexico.

Marwin Taylor, Jefferson, N. Y.
Devonian fossils in a slab.

United States Geological Survey, Washington, D. C.
19 Rocks from Yosemite Valley. (Received 1922.)
17 Photographs, Northwest corner of Yellowstone Park and region to westward thereof in Montana and Idaho.

Miss Louise Van Ingen, New York City.
Clay concretion forming about roots.

Department of Vertebrate Palæontology (Transfer).
Pelecypods and gastropods, from Southwest Wyoming.
Lump of clay containing land shells from Wan-hsien, Szechuan, China.

Mrs. Francis M. von Ardyn, New York City.
Andesitic porphyry, from Great Wall of China, Nankow Pass.

Charles F. W. Willgeroth, New York City.
Baculites, Cretaceous, Potsdam, from Mark Brandenburg, Germany.
Rafinesquina alternata, from near Field, B. C.

By Exchange

Walter C. Clark, Vicksburg, Miss.
194 Oligocene fossils.

Mining and Geological Museum, Sydney, N. S. W. (through the Director, Dr. George W. Card).
Cambrian tillite and pebbles; stretched pebbles, from the Silurian conglomerate; Permo-Carboniferous glaciated pebble from Victoria and one from Tasmania; opalized shells from Sturt Range, South Australia; fossil plants from the Jurassic beds at Talbragan, N. S. W.; fragments of fulgurites; fragment of the Warialda meteorite.

Otto Papke, Laurel Hill, N. J.
4 Internal moulds of Brachiopods.

By Purchase

Fossil specimen—*Calymene senaria*, London, Ontario, Canada.
Norfolk (Va.) meteorite, 22,935 grams.
Meteorite — Stalldalen, 178 grams, Orebro, Sweden.
2 Collections of miscellaneous fossils.
34 *Scaphites* sp., Benton shales, Upper Cretaceous, Calgary, Alberta.
About 176 Fossil sponges, Germany.
121 Fossils, New Mexico.
325 Fossils, California.
1 Ammonite, Cretaceous (?), Field, B. C.

Through Museum Expeditions

1 Specimen Sandstone—Triassic age, East Longmeadow, Mass.
129 Rocks and Ores and 497 Photographs, Australia, New Zealand, Fiji, Rarotonga and Tahiti. Obtained by Dr. E. O. Hovey.
Samples of varve clays, Little Ferry, N. J. Collected by Dr. C. A. Reeds.

DEPARTMENT OF MINERALOGY

By Gift

George W. Brigant, Guanajuato, Mexico.
Specimen Native Silver, Guanajuato, Mexico.
Wilbur J. Elwell, Danbury, Conn.
Garnet (Essonite), Redding, Conn.
Pyrite on Siderite, Roxbury, Conn.
C. Raymond Frey, Tulsa, Okla.
7 Diamond crystals, British Guiana.
Arthur D. Gabay, New York City.
280 Specimens of miscellaneous minerals.
3 Black Opals, 3 Opals (polished matrix), 2 Opals (stream pebbles), 2 Opals (cut stones), 1 Opal (cut slab), 1 Tourmaline (section of gem crystal); Southern Australia, New South Wales, Mexico, and California.
2 Pyrargyrite, from Cobalt, Ontario, Canada.
David N. Goodman, New York City.
1 Specimen Stichtite, South Africa.
A. Grosjean, Peking, China (through Mrs. Henry Fairfield Osborn).
16 Chinese antique glass jewels, Shensi and Honan Provinces, China.
J. R. Hackes, New York City.
1 Beryl crystal, 1 Chalcedony, 1 Tourmaline (gem fragment), San Diego, Cal.
Charles W. Hoadley, Englewood, N. J.
2 Specimens of Calcite, Franklin, N. J.
1 Talc and Serpentine, Easton, Pa.
F. L. Horine, New York City.
1 Pyrite in Cryolite, Ivigtuk, Greenland.
Mrs. Edward J. Jones, New York City.
26 Specimens of miscellaneous minerals.
Herbert H. Knox, New York City.
Artificial crystal of salt, Cabo Frio, Brazil.
George F. Kunz, New York City.
1 Kunzite (59.19 carats) and 1 Kunzite (14.80 carats), Pala, San Diego Co., Cal.
Prof. Alfred Lacroix, Paris, France.
1 Wulfenite, 1 Vanadinite, from Morocco.
E. P. Mathewson, New York City.
3 Argentojarosite, Tintic District, Utah.
Department of Mines, Sydney, Australia (through Dr. G. W. Card).
3 Molybdenite crystals.
J. P. Morgan, New York City.
38 Gems.
1 Rubellite (6.54 carats), Pala, San Diego Co., Cal.
Alphonse Neu, New York City.
2 Specimens Muscovite and 1 Wolframite, Cameroon, West Africa.
W. D. Nevel, Andover, Me.
Smoky Quartz, Greenwood, Me.
S. Nishikawa, Omura, Nagasaki ken, Japan.
1 Cultured Pearl and 2 Pearl shells, Omura Bay, Nagasaki ken, Japan.
Mrs. Henry Fairfield Osborn, New York City.
2 Carnelian scarabs, one set in ring, 1 Onyx cameo, 1 Sardonyx cameo, 2 shell cameo brooches, 1 pearl attached to shell of Pearl Oyster, Japan.
F. Wesley Parker, Boise, Idaho.
3 Quartz crystals, Payette Lake, Idaho.
Prof. A. F. Rogers, Stanford University, Cal.
Anthophyllite in Serpentine, New York City.

M. D. Rothschild, New York City.
4 Mauve Jade beads, Burma.
J. F. Schairer, New Haven, Conn.
1 Margarite, Long Hill, Trumbull, Conn.
Mrs. M. Seabury, New York City.
Large Muscovite specimen, North Carolina.
Utah-Apex Mining Co., Bingham Canyon, Utah (through S. P. Holt).
Small Pyrite crystals, Bingham Canyon, Utah.
Miss Mildred Woolworth, New York City.
2 Specimens of Agate, 1 Petrified Wood.
E. Zucca, Puerto Plata, R. D., W. I.
3 Specimens of Amber, Santo Domingo, W. I.

By Exchange

Prof. Henri Buttgenbach, Brussels, Belgium.
1 Anglesite, 9 Cerussite, 14 Cerussite crystals, 5 Cerussite pseudomorph after Anglesite, Tunis, North Africa; 3 Cornetite, 6 Dioptase and Plancheite, 4 Kasolite and Curite, 1 Torbernite and Parsonsite, 3 Uraninite, Gummite and Uranophane, Katanga, Belgian Congo.

By Purchase
(Matilda W. Bruce Fund)

Casket inlaid with Siberian minerals.
Chrysoprase Pendant.
Indian Head, Black Opal, Australia.
Chrysoprase Buddha.
Carnelian Pendant.
Pink Beryl.
Smoky Quartz, Auburn, Me.
Quartz coated with Herderite, Buckfield, Me.
28 Tourmaline gem crystals, Mt. Mica, Me.
4 Tourmaline gem sections, Mt. Mica, Me.
1 Tourmaline matrix, Mt. Mica, Me.
1 Reddingite, Buckfield, Me.
1 Cookeite, Buckfield, Me.
1 Anglesite, Gold Chain, Tintic District, Utah.
1 Beudantite, Dernbach, Germany.
1 Kobellite, Leadville, Col.
1 Liskeardite, Cornwall, England.
1 Magnetite Stirling Hill, N. J.
1 Parisite, Narsarsuk, Greenland.
1 Plagionite, Wolfsberg, Germany.
1 Topaz in Quartz, Alabaschka, Russia.
1 Vial native Tantalum, Ural Mountains.
36 Specimens of minerals, from various localities.
8 Specimens of minerals, Snake Hill, N. J.
1 Argentojarosite, Dividend, Utah.
Plumbo - Argentojarosite, Dividend, Utah.
Phosphophyllite, Oberpfalz, Bavaria.

(General Fund)

3 Specimens Sylvanite, Cripple Creek, Col.
1 Tourmaline in Quartz, Siberia.
1 Pink Beryl, 1 Spodumene, Pala, San Diego Co., Cal.
4 Beryl, 1 Lepidolite, 2 Smoky Quartz, 3 Tourmaline, 2 Apatite, 1 Muscovite and Lepidolite, 2 Lepidolite spheres, 3 Lepidolite shells, 1 Lepidolite and Clevelandite, 2 Clevelandite crystals, Maine.
1 Beryl, Massachusetts.
12 Specimens Datolite, Prehnite, Stilbite, Diabantite, Thomsonite, West Paterson and Snake Hill, N. J.
10 Calcite, Snake Hill, N. J.
4 Apophyllite, 1 Calcite on Apophyllite, Snake Hill, N. J.
1 Copper, Lake Superior, Mich.
1 Hematite, Cleator Moor, England
17 Specimens minerals, from various localities.
1 Willemite and Franklinite, Franklin, N. J.
1 Psilomelane and 1 Aragonite, Ironwood, Mich.
1 Bindheimite and Jamesonite, Hawthorne, Nevada.

DEPARTMENT OF VERTEBRATE PALÆONTOLOGY

By Gift

E. L. De Golyer, New York City.
Skull and jaws of Bison, western Kansas.
Prof. C. R. Halter, Lakeland, Fla.
Fossil teeth and bones from phosphate mines near Lakeland, Fla.
Walter W. Holmes, St. Petersburg, Fla.
2 Fossil ribs (Sirenian), Onion Key, Lostman's River, Fla.

VIC H. HOUSHOLDER, Phoenix, Ariz.
Fragments of turtle shells and of foreleg of Camel, from desert near Phoenix.

G. S. MCCLINTOCK, Wilkes-Barre, Pa.
Casts of Piltdown skull; flint implements (types); Cro-Magnon—femur; Spy I—femur; Les Eyzies—jaw, humerus, and ulna; Galley Hill—femur and jaw.

PROF. J. H. MCGREGOR, New York City.
2 Casts of Ehringsdorf (young and adult); reconstruction of Les Eyzies, skull No. II. La Quina, intra-cranial cast by Martin.

HARRY L. MEAD, Brewster, Fla. (through Prof. R. M. Raymond, New York City).
Collection of fossil teeth and bones from phosphate bed (Pliocene) at Brewster, Fla.

L. C. READ, Atlin, B. C., Canada.
Back of fossil skull, found in mine near Atlin.

By Exchange

BRITISH MUSEUM (Natural History), London, England.
10 Casts of Fayûm Proboscidea, types and cotypes.
Cast of lower molars of type specimen of *Palæomastodon wintoni,* from Fayûm, Egypt.

DR. J. EHIK, Budapest, Hungary.
Fossil bones and teeth.

MINING AND GEOLOGICAL MUSEUM, Sydney, New South Wales, Australia.
Portions of 17 fossil marsupials, Australia.

QUEENSLAND MUSEUM, Brisbane, Queensland, Australia.
Portions of 11 fossil marsupials, Australia.

SOUTH AUSTRALIAN MUSEUM, Adelaide, Australia.
Parts of mandible and skeleton of *Diprotodon,* Australia.

STATE NATURAL HISTORY MUSEUM, Vienna, Austria.
Cast of *Pachyophis.*

VICTORIA MUSEUM, Launceston, Tasmania.
Portions of 6 fossil marsupials, Tasmania.

ZOOLOGICAL MUSEUM, Cambridge, England (through C. Forster Cooper).
6 Casts of *Paraceratherium,* from Bugti Hills, Baluchistan.

By Purchase

Casts: Tilbury—skull; Galley Hill—jaw and femur; Lankwith Cave—skull.
Model restoration of *Triceratops.*
Mastodon jaw, from bed of Arkansas River, Leflore Co., Okla.
Cast of fore limb and foot bones of *Plateosaurus.*
Casts of Heidelberg, Chapelle-aux-Saints, Cro-Magnon, Piltdown, Pithecanthropus—skulls, with section of jaw, and Ehringsdorf, section of jaw.
Casts of 3 Slaigneaux skulls and of Pont-à-Lesse, Furfooz, La Martina, and De Goyet jaws.
Casts of 2 Furfooz skulls, with jaws.
Casts of 4 Ofnet skulls, with jaws.
Fossil bones: skull of a Ceratopsian Dinosaur and skeleton of a Crocodile, from near Tsaya, San Juan Co., N. M.
Model of Pigmy Elephant.

Through Museum Expeditions

THIRD ASIATIC EXPEDITION:
Fossils: 6 Dinosaur eggs, specimens of *Protoceratops* and other Dinosaurs, Cadurcotherium, Titanothere, and Carnivore skull, Mongolia. Collected by Walter Granger.
Fossils from India and Burma. Collected by Barnum Brown.
Fossil Mammals, from Punin, near Riobamba, Ecuador. Collected by H. E. Anthony.

DEPARTMENT OF LOWER INVERTEBRATES

By Gift

WILLIAM BEEBE, New York City.
Collection of Invertebrates, British Guiana.

L. C. BROWN, Rosedale, Miss.
Linguatula tænioides (Lamarck).

DR. GORDON D. BROWNE, New York City.
5 Specimens *Uca maracoani,* Tutoya Creek, Brazil.

DR. J. P. CHAPIN, New York City.
Crustacean, Galera Island, off Panama.

RUSSELL J. COLES, Danville, Va.
1 Holothurian and 1 Octopus, North Carolina.

W. E. Cutler, Manitoba, Canada.
132 Specimens Shells and Crustacean, Cedar Lake and Lake Winnipeg, Manitoba.

William A. Enge, Sanchez, D.R., W.I.
1 Specimen *Squilla dubia,* Punta Arena, Samana Bay, D.R.

Department of Entomology (Transfer).
14 Specimens of labeled Scolopendra.

Arthur D. Gabay, New York City.
Collection of Sponges, Shells, and other Invertebrates, Bahamas, Florida, West Indies, and the Red Sea.

Department of Geology (Transfer).
6 Shells.

Gordon Grant, Los Angeles, Cal.
Collection of Myriapods, Annulates, Snails, etc., Los Angeles, Cal.

Prof. Caswell Graves, Woods Hole, Mass.
8 Specimens of named Ascidians (2 species), Vineyard Sound, Mass.

Thomas Hallinan, Paterson, N. J.
3 Land shells and 1 Centipede, Florida.

Department of Herpetology (Transfer).
3 Myriapods, Plainfield, N. J., and Tucson, Ariz.

Prof. A. L. Herrera, Mexico.
Collection of Crustaceans, California and Mexico.
26 Land slugs, Desert of the Lions, Mexico.
5 Mounted plates, showing imitations of cell division.

George Hobart, Plymouth, Mass.
3 Specimens of *Mactra solidissima,* Plymouth.

Department of Ichthyology (Transfer).
2 Crustaceans, Connecticut River.

George E. Johnson, Cambridge, Mass.
2 Crustaceans (Crayfish).

Mrs. Edward J. Jones, New York City.
Collection of Shells, Corals, and Echinoderms.

Herbert Lang, New York City.
Collection of Crustaceans, Myriapods, and other Invertebrates, British Guiana.

Marine Piling Investigations Committee of the National Research Council (through F. A. Varrelman, and I. Kornhauser).
Crustaceans from the vicinity of New York City.
1 Specimen of Piling showing damage done by *Teredo,* from Guantanamo Bay, Cuba

Prof. Maynard M. Metcalf, Oberlin, Ohio.
164 Microscopic slides of Protozoa, including 107 paratypes.

Frank J. Myers, Ventnor, N. J.
14 Slides of mounted and named Cladocera (14 species).
53 Slides of mounted and named Rotifers, including 30 types.

New York Aquarium, New York City.
1 Crustacean (Crawfish).

Dr. G. K. Noble, New York City.
12 Specimens of *Eubranchipus vernalis,* Syosset, L. I.
1 Specimen *Limnetis gouldi* (Phyllopod) and Sponge (fresh water), Queens.

Olaf O. Nylander, Caribou, Me.
44 Specimens of labeled Shells (3 species), Maine.

S. Oldroyd, Stanford University, Cal.
6 Specimens of Land Shells.

Parsons Ammonia Co., New York City (through L. W. Mitchell).
Natural group showing Tube Sponge, *Gorgonia* and *Spondylus* shells growing together, Tarpon Springs, Fla.

Prof. H. A. Pilsbry, Philadelphia, Pa. (through Dr. E. O. Hovey).
8 Specimens of Land Shells (*Thersites whartoni* Cox), Holbourne Island, Queensland.

C. H. Rogers, Princeton, N. J.
9 Vials of Parasitic Worms, Panama.

Franklin S. Smith, Montclair, N. J.
6 Specimens *Lymnæa auricularia* (Land Shells), Montclair.

G. H. H. Tate, Nutley, N. J.
Myriapods and other Invertebrates, Nanpan, Ecuador.

Prof. A. L. Treadwell, Poughkeepsie, N. Y.
124 Specimens of identified Annulates, including 18 types, Samoa and Fiji Islands.

Dr. W. G. Van Name, New York City.
1 Specimen *Natica heros,* Long Beach, L. I.
22 Specimens fresh-water Shells, Pompton Lakes, N. J.

Frank E. Watson, New York City.
1 Shell (*Unio sp.*), Van Cortlandt Lake; 1 Sponge (*Chalina oculata*), Long Beach, L. I.

E. J. M. Williams, Somerville, N. J.
1 Leech, from Duke Farm Co., Somerville.

Miss M. Wray, New York City.
13 Marine shells.

By Exchange

Charles Barrett, Elsfernwick, Victoria, Australia.
Collection of Shells and other Invertebrates, Australia.

Prof. R. P. Cowles, Washington, D. C.
3 Vials of Ascidians, Virginia Capes and Chesapeake Bay.

Mrs. Ida S. Oldroyd, Stanford University, Cal.
Collection of labeled Shells (233 species)—more than 1700 specimens, Alaska, British Columbia, Lower California, and Puget Sound.

Peabody Museum, Yale University, New Haven, Conn.
77 Specimens of labeled Echinoderms (62 species).

Prof. C. F. Van der Horst, Amsterdam, Holland.
Ascidians and other Invertebrates, from Curacao.

By Purchase

43 Specimens of named Invertebrates.
1 *Pleurotomaria.*

Through Museum Expeditions

2 Centipedes, from India. Collected by Colonel J. C. Faunthorpe and Mr. Arthur S. Vernay.

67 Specimens of Corals and numerous Shells, Great Barrier Reef, Australia. Collected by Dr. E. O. Hovey.

Collection of Invertebrates, Mt. Desert Island, Me., and Woods Hole, Mass. Collected by Dr. Roy W. Miner.

4 Specimens of Oligochætes, Tasmania. Collected by H. C. Raven.

1 *Limulus polyphemus,* Staten Island. Collected by Dr. W. G. Van Name.

Whitney South Sea Expedition:
Collection of Invertebrates, Shells, Myriapods, Corals, etc., South Sea Islands. Collected by R. H. Beck and E. H. Quayle.

DEPARTMENT OF ENTOMOLOGY

By Gift

Agricultural Experiment Station, Rio Piedras, Porto Rico (through George N. Wolcott).
5 Coleoptera, including 1 cotype, Porto Rico.

John Angell, New York City.
Specimen Coleoptera, Montauk, L. I.

R. C. Barker, Boise, Idaho.
About 35 specimens: Beetles, Bettle-larvæ, and biological material of *Neophasia menapia,* Idaho.

Dr. William Barnes, Decatur, Ill.
60 Moths, including 11 paratypes.

Charles L. Barrett, Victoria, Australia.
About 100 specimens of Bees, Australia.

D. M. Bates, Ft. Lauderdale, Fla.
9 Lepidoptera, Florida.

William Beebe, New York City.
191 Lepidoptera, Galapagos Islands.

E. L. Bell, Flushing, L. I.
339 Lepidoptera and 532 Insects of various orders.

Dr. J. Bequaert, New York City.
Types of *Megalopta vigilans* Cockerell, *Xerophasma bequaerti* Cockerell, *Perdita minima* Cockerell, *Aporinellus wheeleri* Beq., paratype *of Andrena ceanothi* Vier., 1 type and paratype of Hymenoptera.

G. E. Beyer, New Orleans, La.
6 Specimens *Anopheles atropos,* Terrebonne Bay, La.

British Museum (Natural History), London, England.
Specimen *Photinus commissus,* Jamaica.

Stephen C. Bruner, Santiago de las Vegas, Cuba.
58 Coleoptera, Cuba.

Samuel E. Cassino, Salem, Mass.
About 2,600 Lepidoptera.

F. H. Chittenden, Washington, D. C.
3 Coleoptera (*Desiantha nosciva*), Mississippi.

Prof. T. D. A. Cockerell, Boulder, Col.
Coccidæ (1 *Takahashia japonica*), Tsuruga, Japan.

W. B. Cole, Hinghwa, Fukien Province, China.
About 70 insects. Fukien Province, China.

WILLIAM T. DAVIS, New Brighton, S. I.
Type specimen of *Manomera blatchleyi atlantica,* Clove Swamp, S. I.

MRS. E. L. DICKERSON, Nutley, N. J.
Collection of Insects.

ALFRED EMERSON, Pittsburgh, Pa.
2 Specimens *Kalotermes* (*Neotermes*) *gracilignathus*—paratype, Juan Fernandez Island.

GEORGE P. ENGELHARDT, Brooklyn, N. Y.
95 Bees, Utah and Colorado.

ALFREDO FAZ, Santiago, Chile.
277 Specimens of Hymenoptera and 107 of Coleoptera, Chile and Argentina.

GAYLORD C. HALL, New York City.
57 Hesperiidæ.
23 Bumblebees and 2 Beetles, Florida and Newfoundland.

THOMAS J. HALLINAN, Paterson, N. J.
About 600 Insects, from Florida.

DEPARTMENT OF HERPETOLOGY (Transfer).
1 Specimen larvæ of Odonata, Lake Cushman, Wash.

WILLIAM A. HOFFMAN, Baltimore, Md.
322 Insects.

H. A. HUGGINS, Bulwack, Chepstow, England.
172 Lepidoptera, Panama.

DR. E. R. P. JANVRIN, New York City.
2 Beetles, Jones Beach, L. I.

F. M. JONES, Wilmington, Del.
226 Insects, Western United States.

LELAND J. W. JONES, Bainbridge, N. Y.
4 *Boreus,* Bainbridge.

K. K. NATURHISTORISCHES HOFMUSEUM, Wien, Austria.
About 150 Psocidæ.

A. B. KLOTS, New York City.
6 Butterflies, Putnam, Conn.

HERBERT LANG, New York City.
225 Insects, British Guiana.

CHARLES W. LENG, New Brighton, S. I.
7 Coleoptera, including paratype specimen of *Statira liebecki.*
14 Beetles, including 6 paratypes.

MRS. GEORGE J. LITTLE, Hasbrouck Heights, N. J.
Phasmid (Walking-stick), Hasbrouck Heights.

PROF. A. MATHEY, Bienne, Switzerland.
5 Beetles (*Royerella villardi matheyi*). Montiers District, Switzerland.

L. L. MOWBRAY, New York City.
About 100 specimens *Tibicen bermudana,* Bermuda.

FRED OPPENHEIMER, New York City.
Collection of European Lepidoptera (about 2,600 specimens) and list of species.

G. P. PIERSON, New York City.
64 Lepidoptera, California.

R. A. POPE, Brooklyn, N. Y.
106 Lepidoptera, chiefly from Alaska.

CHARLES RUMMEL, Newark, N. J.
3 Lepidoptera and 1 larva.
4 Moths and 1 blown larva, New Jersey.

JOHN D. SHERMAN, JR., Mt. Vernon, N. Y.
600 Specimens, mostly Beetles, New Hampshire.

ERNEST SHOEMAKER, Brooklyn, N. Y.
3 Coleoptera (*Oberea flavipes*), Maryland and Virginia.

DR. A. H. STURTEVANT, New York City.
166 Insects, including 4 types and 1 paratype of Diptera.
8 Diptera, Cavite, Philippine Islands.

GEORGE N. WOLCOTT, San Juan, Porto Rico.
14 Coleoptera, including 1 type and 6 cotype specimens, Porto Rico and Santo Domingo.

LEWIS B. WOODRUFF, New York City.
Agrilus putillus and paratypes of *Polydrusus decoratus* (4 specimens), Alabama.

M. P. ZAPPE, New Haven, Conn.
4 Beetles, New Haven, Conn.

BY EXCHANGE

GEORG OCHS, Frankfurt, Germany.
20 Coleoptera (Gyrinidæ), including 1 cotype.

BY PURCHASE

44 Bees, Hope, Ark.
397 Beetles (Buprestidæ).
About 4,000 Insects, Tibet.
1,000 Hymenoptera, Guatemala.
244 Hymenoptera, various localities.
400 Insects, Ecuador.

THROUGH MUSEUM EXPEDITIONS

FAUNTHORPE-VERNAY INDIAN EXPEDITION:
1 Scorpion and Botfly larvæ (about 10 specimens), India.
Collected by Colonel J. C. Faunthorpe and Mr. Arthur S. Vernay.

THIRD ASIATIC EXPEDITION:
314 Insects. Collected by Walter Granger.

About 5,000 Insects and Spiders, Haiti and Panama. Collected by Dr. F. E. Lutz.

About 1,000 Insects and Spiders, Florida and South Carolina. Collected by Dr. F. E. Lutz and Herbert F. Schwarz.

DEPARTMENT OF ICHTHYOLOGY

By Gift

Reginald Pelham Bolton, New York City.
Fossil shark's tooth (Carcharodon).

Prof. N. Boradin, Hartford, Conn.
Young of Alewife and Shad, Connecticut River.

Dr. Russell J. Coles, Danville, Va.
3 Rare Fishes, Cape Lookout, N. C.

Jack B. Disbrow, Erie, Pa., and J. T. Spooner, Joplin, Mont.
Bat fish, from Porta Cortez, British Honduras.

Miss Grace D. Foster, New York City.
Fossil Clupeoid Fish.

Arthur D. Gabay, New York City.
Sawfish saw, Gulf of Mexico.
Large mounted *Diodon hystrix*, Bahamas.

Major Chapman Grant, San Diego, Cal.
Miscellaneous collection of fishes (50 specimens), Tropical Pacific.

Prof. C. R. Halter, Lakeland, Fla.
100 Florida fishes, Lakeland, Fla.
Fossil shark tooth, from prosphate beds near Lakeland, Fla.

Department of Herpetology (Transfer).
Eel, *Muræniehthys macropterus*, from stomach of Sea Snake, Depolad Island, Sulu, Philippines.

Imperial University of Tokio, Tokio, Japan.
Collection of Japanese fishes.

W. S. Keene, Plymouth, Mass.
Small-mouth Black Bass, Plymouth.

Herbert Lang and William J. LaVarre, New York City.
Miscellaneous fishes, British Guiana.

Roy Latham, Orient, L. I.
Abnormal winter flounder, shark and ray, Orient, L. I.

Dr. F. A. Lucas, New York City.
Yellow perch skeleton, Plymouth, Mass.

Louis L. Mowbray, New York City.
Squirrel fish, Bermuda.

R. C. Murphy and Francis Harper, New York City.
Fishes from Montauk, L. I.

Nagele Brothers, New York City.
Abnormal Rusty Dab, *Limanda ferruginea*.

Alphonse Neu, New York City.
2 Lots fragmentary Fossil material, Cameroon, Africa.

New York Zoological Society, New York City.
Ceratodus.
Electric Eel, British Guiana.

W. B. Nichols, Oyster Bay, N. Y.
Sawfish Saw, Aden, Arabia.

Claude Nolan, Jacksonville, Fla.
Whale Shark, Long Key, Fla.

Andrew Putnam, New York City.
Billed-eel, Northport, L. I.

Mrs. Herbert W. Smith, Point o'Woods, L. I.
Deep Big-eye, Point o'Woods.

C. R. Stuck, New York City.
Nodule containing fossil fish, Brazil.

Manfred P. Welcher, Hartford, Conn.
Otholith of Sheep's-head.

Mrs. Jacob Wertheim, New York City.
Collection of mounted fishes, Florida and New Jersey (received in 1921).

David L. Williams, St. Augustine, Fla.
18 Photographs of whale shark, with negatives.

Harrison Williams Galapagos Expedition of the Department of Tropical Research of the New York Zoological Society.
Collection of fishes, 50 species (about 200 specimens), Galapagos Islands.

William C. Wood, New York City.
4 Specimens *Cyprinodon macularis*, Coachella Valley, Cal.

By Exchange

Australian Museum, Sydney, Australia.
4 Sea horses and a collection of Carangin fishes.

British Museum (Natural History), London, England.
9 Flat fishes.
13 Tooth carps.

Queensland Museum, Brisbane, Australia.
2 Ceratodus, 1 Goby.

United States National Museum, Washington, D. C.
8 Minnows (*Notropis photogenis* and *N. amœnus*).

By Purchase

Snake Mackerel, Napeaque Coast Guard Station, L. I.
Sawfish saw, Calcutta, India.
Mounted Tripletail, Florida.
1 Gyrodus.
Mounted Striped Sea Robin, Electric Ray, Dogfish and Frigate Mackerel; Martha's Vineyard, Mass.

Through Museum Expeditions

Miscellaneous fishes, Japan. Collected by David Starr Jordan.
Fresh-water Fishes, Australia. Collected by H. C. Raven.
Whitney South Sea Expedition:
Miscellaneous Fishes, Tropical Pacific. Collected by R. H. Beck.

DEPARTMENT OF HERPETOLOGY

By Gift

Dr. A. Amaral, Cambridge, Mass.
7 Snakes.
12 Snakes, São Paulo, Brazil.
Anonymous.
1 Snake (*Natrix sipedon*).
William Beebe, New York City.
1 Frog (*Eupemphix pustulosa*), Colon, Panama.
W. R. Boulton, New York City.
23 Salamanders, Harmarville and Wildwood, Pa.
Richard Bowen, Providence, R. I.
1 Mud Puppy, Missouri.
C. M. Breder, Jr., New York City.
3 *Salamandra maculosa* (larvæ).
1 *Salamandra maculosa* (egg).
4 Living Salamanders (*Triturus torosus*), California.
C. M. Breder, Jr., and Mrs. Breder.
53 Snakes, 2 lizards, 4 frogs and toads, 10 lots of salamander larvæ and 146 salamanders, North Carolina.
Dr. C. D. Bunker, Lawrence, Kan.
1 Snake (*Elaphe obsoleta obsoleta*), Lawrence.
William Callan, Paget East, Bermuda.
1 Lizard (*Anolis iodurus* Gosse), Bermuda.
Col. M. L. Crimmins, Fort Bliss, Tex.
1 Snake (*Sonora episcopa*), El Paso, Tex.
1 Black-tailed Rattler, 1 Race Runner, 6 Leopard Lizards, 3 Lizards, 2 Horned Toads, 1 Rattlesnake, Mt. Franklin, Tex.
Charles C. Deam, Bluffton, Ind.
2 Toads (*Bufo fowleri*), Lake Co., Ind.
Jacob De Lazier, Moe, N. J.
1 Shed snake skin, Moe, N. J.
Dwight L. Elmendorf, New York City.
Marble Salamander, Wilton, Conn.
George P. Engelhardt, Brooklyn, N. Y.
2 Salamanders (*Ambystoma opacum*), Long Island.
1 Snake (*Thamnophis sirtalis parietalis*), Mt. Rainier, Wash.
Dr. G. C. Fisher, New York City.
1 Purple Salamander, South Waterford, Me.
S. Grant, Los Angeles, Cal.
1 Snake skull (*Coluber lateralis*), 11 lizards (*Sceloporus*), 10 lizards (*Uta*), Los Angeles.
25 Salamanders (*Batrachoseps attenuatus*), 1 salamander (*Plethodon eschscholtzii*).
L. Griscom, New York City.
1 Snake (*Lampropeltis t. triangulum*), Riverdale, N. Y.
Thomas Hallinan, Jacksonville, Fla.
54 Frogs and 1 Lizard, Florida.
C. R. Halter, Lakeland, Fla.
22 Reptiles and 15 Amphibians, Florida.
B. T. B. Hyde, New York City.
1 Snake (*Coluber*), 5 lizards (*Sceloporus undulatus*), 6 frogs, (4 *Rana clamitans*, 2 *Hyla crucifer*), Roaring Springs, Gloucester Co., Va.
E. S. Joseph, Granville, New South Wales.
3 Snakes, Australia.
L. M. Klauber, San Diego, Cal.
9 Snakes (2 *Masticophis lateralis*, 1 *M. piceus*, 3 *M. frenatus*, 1 *Coluber lateralis*, 2 *C. constrictor mormon*), California.
Herbert Lang and William J. LaVarre, New York City.
27 Snakes; 134 lizards, amphibians, cæcilians; 5 turtles; 80 batrachians; British Guiana.
H. P. Loding, Mobile, Ala.
1 Snake (*Lampropeltis triangulum amaura*), Alabama.
Department of Mammalogy (Transfer).
6 Crocodile eggs, Faradje, Belgian Congo.
Prof. L. A. Mannhardt, New York City.
2 Rattlesnakes (*C. confluentus*), Battle Creek Canyon, S. D.

W. DeW. Miller, New York City.
1 Snake (*Virginia valeria*), Watchung, N. J.

Dr. Roy W. Miner, New York City.
1 *Plethodon cinereus*, Mt. Desert Island, Me.

G. S. Myers, Jersey City, N. J.
1 Frog (*Pseudacris triseriata*), Caldwell, N. J.
1 Snake (*Thamnophis sauritus*), Greenwood Lake, N. J.
1 Snake (*Thamnophis sauritus*), Queens, L. I.
9 Salamanders (*Triturus viridescens vittatus*), Wilmington, N. C.

Miss E. E. Nelson, New York City.
1 Toad (*Bufo fowleri*), Crugers-on-Hudson, N. Y.

New York Aquarium, New York City.
About 127 specimens of Reptiles and Amphibians, Florida, Virginia, Maryland, South Carolina, etc.

New York Zoological Society, New York City.
19 Snakes (1 from India, 1 South Africa, 4 Texas, 4 California, Garter snake, South Carolina, Green snake, Florida, 2 South America, and 3 Rattlesnakes, 1 Racer and 1 Garter snake).
12 Lizards (4 from Australia, Collared Lizard from California, Collared Lizard, Arizona, 2 Water Lizards, 4 Mexican Lizards); Australian Monitor, Gila Monster, Arizona, Australian Skink, Cunningham's Skink; 34 Iguanas (26 Marine Iguanas, 6 *Conolophus*, Galapagos Islands, 1 Iguana, Texas, 1 Iguana, South America); Horned Toad.
1 Alligator, 1 Crocodile, West Africa, 1 Caiman (crocodile), Guanaco, Venezuela.
Tortoise, Galapagos; 2 Tortoises, Madagascar; Tortoise, South America.
2 Turtles, South America; Turtle, Africa; Turtle, Madagascar; Snake-neck Turtle, Australia.

J. T. Nichols, New York City.
Frog (*Rana pipiens*), Denver, Colo.

A. I. Ortenburger, New York City.
4 Snakes (2 *Coluber*, 1 *Drymarchon*, 1 *Natrix*), California, Texas, and Florida.

A. I. and R. D. Ortenburger, New York City.
Snake (*Storeria dekayi*), New York City.

William Parisette, Brooklyn, N. Y.
Seven-legged Frog, Brooklyn, N. Y.

Clyde Patch, Ottawa, Ontario, Canada.
3 Living specimens of *Hyla regilla*, Penticton, British Columbia. Collected by E. R. Buckell.

A. L. Pierce, Culver, Ind.
Snake (*Elaphe vulpina*), Culver, Ind.

Princeton University, Princeton, N. J.
40 Frogs and toads, 24 lizards, 2 snakes, 1 turtle, Panama. Collected by Drs. Chapin, Rogers, and Mathews.

Miss Gwen Richardson, New York City.
2 Cæcilians, British Guiana.

Francisco Schade, Villarrica, Paraguay.
Snake (*Elaps frontalis*).

Ernest Thompson Seton, Greenwich, Conn.
3 Young snapping turtles, Greenwich.

F. C. Silvio, New York City.
Freak pickerel frog, Long Lake, Adirondacks, N. Y.

Walter E. Stiehl, Barahona, D. R.
1 Iguana skin, 1 Rhinoceros Iguana; Santo Domingo.

Dr. T. Van Hyning, Gainesville, Fla.
Frog (*Hyla ocularis*) and toad (*Bufo terrestris*), Florida.

Percy Viosca, Jr., New Orleans, La.
Frog (*Rana sphenocephala*), Louisiana.

By Exchange

Dr. Thomas Barbour, Cambridge, Mass.
5 Cæcilians, 19 lizards; Nicaragua, Brazil, Panama, Madagascar, Jamaica, East Indies, Java, Costa Rica, etc.

British Museum (Natural History), London, England (through H. W. Parker).
12 Cæcilians. China, Africa, etc.

Richard P. Erwin, Boise, Idaho.
Series of 100 Salamanders, and 10 Snakes (8 Rattlers, *Crotalus oreganus*, and 2 Racers), Idaho.

Instituto Oswaldo Cruz (through Dr. José Beata Vianna), Bello Horizonte, Brazil.
14 Snakes, 1 lizard.

L. M. Klauber, San Diego, Cal.
100 Western Newts (*Notophthalmus torosus*), Cuyamaca Mt., San Diego Co., Cal.

ROBERT MERTENS, Frankfurt, Viktoria-Allee 7, Germany.
78 Specimens of Reptiles and Amphibians, Madagascar.

MUSEU NACIONAL (through Dr. Miranda Ribeiro), Rio de Janeiro, Brazil.
7 Frogs.

NEW YORK AQUARIUM, New York City.
5 Salamanders, Germany and California.

CLYDE L. PATCH, Ottawa, Canada.
8 Frogs (4 *Ambystoma tigrinum*, 4 *Rana pipiens*), Canada.

PUBLIC LIBRARY, MUSEUM AND ART GALLERY OF SOUTH AUSTRALIA, Adelaide.
2 Crocodile skulls, 1 mounted crocodile, 116 specimens of Reptiles and Amphibians; Australia.

QUEENSLAND MUSEUM, Brisbane, Australia (through H. R. Raven).
22 Specimens of Reptiles, Queensland.

DR. JEAN ROUX, Basel, Switzerland.
23 Specimens of Reptiles and Amphibians, New Caledonia, Java, Ceylon, etc.

DR. A. G. RUTHVEN, Ann Arbor, Mich.
3 Embryos of *Hyla fuhrmanni*.

DR. J. VAN DENBURGH, San Francisco, Cal.
3 Salamanders (*Hynobius leechii*), Japan.

DR. KARL WEINGAND, Württemberg, Germany.
22 Salamanders, 3 frogs, 1 toad; Germany.

DR. FRANZ WERNER, Vienna, Austria.
2 Frogs, 11 Newts, 1 Chamæleon; Pyrenees Mts., Carpathian Mts., and Madagascar.

PROF. H. H. WILDER, Northampton, Mass.
1 Tadpole (*Megalophrys* sp.), Province of Che-Kiang, China.

DR. W. WOLTERSTORFF, Magdeburg, Germany.
4 Frogs, Magdeburg, Germany.

BY PURCHASE

3 Salamanders, *Siren* (alive), Florida.
22 Amphibians, North Carolina.
14 Snakes, Henryville, Ind.
78 Specimens (Frogs, Snakes, Lizards and 1 Cæcilian), Ecuador.
50 Frogs, China.
104 Specimens of Reptiles and Amphibians, Dominican Republic.
84 Frogs, 50 lizards, 4 snakes and 25 tadpoles, Ecuador.
Dissected Viper head model.
655 Amphibians, 36 vials containing tadpoles, eggs and salamander larvæ, also *Plethodon* eggs; Lake Cushman, Wash.
1 *Bufo rubro punctata*, Arauco, Chile.
8 Cæcilians, 2 amphisbænids, 1 lizard, 62 frogs and toads; South America.
10 Amphibians (*Cryptobranchus*), Youngsville, Pa.
1 Snake, 1 gecko, 10 lizards, and 4 frogs; Ecuador.
10 Frogs (*Rana sphenocephala*) and 6 Salamanders (1 *Ambystoma microstomum* and 5 *Amphiuma means*), Louisiana.
2 Salamanders (living), *Pleurodeles waltlii;* complete series of eggs and tadpoles of European spadefoot toad (*Pelobates fuscus*); developmental series of *Triton cristatus;* 14 vials developmental series of *Alytes obstetricans;* 2 *Triton cristatus typica,* 2 *T. c. carnifex,* 2 *Pelobates fuscus fuscus;* all from Germany.

THROUGH MUSEUM EXPEDITIONS

39 Frogs, 10 lizards, and 10 snakes, Ecuador. Collected by H. E. Anthony.
9 Lizards, 1 lizard skin, 24 snakes, 1 Python skull, 1 Python skin (dried), and 1 Monitor (*Varanus*). Collected by Colonel J. C. Faunthorpe and Mr. Arthur S. Vernay.
5 Snakes and 2 turtles, New Jersey. Collected by G. S. Myers.
40 Salamanders, 10 frogs and tadpoles, 1 frog, and 1 toad; Long Island. Collected by Dr. G. K. Noble.
2 Frogs, Caldwell, N. J. Collected by Dr. and Mrs. G. K. Noble.
4 Snakes and 1 frog, New Jersey. Collected by A. I. Ortenburger.
77 Snakes, 665 lizards, 849 amphibians, and 16 turtles, also about 25 lots of tadpoles and eggs, near Tucson, Ariz. Collected by A. I. Ortenburger and Mrs. Ortenburger.
5 Toads, New York City. Collected by G. S. Myers and A. I. Ortenburger.
1 Lizard, 2 snakes, 3 turtles, and 90 specimens of frogs, toads and salamanders, New York and New

Jersey. Collected by G. S. Myers, G. K. Noble, and A. I. Ortenburger.
265 Specimens of Reptiles and Amphibians, Australia. Collected by Dr. W. K. Gregory and H. C. Raven.

THIRD ASIATIC EXPEDITION:
2,865 Frogs and toads, 694 snakes, 1,054 lizards, 113 turtles, and 12 lots of about 100 tadpoles each: China. Collected by Clifford H. Pope.

WHITNEY SOUTH SEA EXPEDITION:
627 Lizards, 786 Reptiles and Amphibians; Polynesia. Collected by R. H. Beck.

DEPARTMENT OF ORNITHOLOGY

By Gift

ANONYMOUS.
1 Nuthatch and 1 Brown Creeper, in the flesh.

DR. L. BAYER, Brussels, Belgium.
Skin of Meyer's Parrot.

JULIUS BELLAMY, New York City.
Olive-backed Thrush, in the flesh, New York City.

DR. F. E. BLAAUW, Gooilust, Holland.
39 Birds' eggs.

B. S. BOWDISH, Demarest, N. J.
1 Glossy Starling.
315 Bird skins, Porto Rico.

COURTENAY BRANDRETH, Ossining, N. Y.
Double-crested Cormorant, in the flesh.

T. D. BROWN, New York City.
Double-crested Cormorant, in the flesh, Long Island.

S. H. CHUBB, New York City.
White-throated Sparrow, in the flesh.

F. B. COWLES, New Bedford, Mass.
101 Bird skins, Natal, Africa.

ESTATE OF WILLIAM DUTCHER (through T. S. Palmer).
4 Mounted Birds.

MRS. WILLIAM FINK, Hastings, N. Y.
Kinglet, in the flesh, Hastings.

FRANK B. FOLTS, Cohocton, Steuben Co., N. Y.
Horned Grebe, Cohocton.

HUDSON FREDERICKS, Moe, N. J.
Owl, in the flesh.

ALLAN FROST, Poughkeepsie, N. Y.
Pectoral Sandpiper, in the flesh.

LUDLOW GRISCOM, New York City.
4 Bird skins, Brownsville, Tex.
Acadian Sharp-tailed Sparrow, in the flesh, Jones Beach, L. I.

HAGENBECK BROS. CO., Hoboken, N. J.
Peacock.

A. W. HARD, West Sayville, L. I.
Surf Scoter and Merganser, in the flesh, West Sayville.

MARTIN JOHNSON, New York City.
51 Bird skins, from East Africa.

ELLIS JOSEPH.
Cockatoo, Kagu, and Hornbill, in the flesh.

WALTER S. KEMEYS, Morristown, N. J.
Northern Water-thrush, in the flesh.

DR. ALEXANDER LAMBERT, New York City.
Surf Scoter, Lake Picard, Quebec.

HERBERT LANG and WILLIAM J. LAVARRE, New York City.
182 Bird skins, British Guiana.

JAMES MAHONEY, New York City.
Starling, in the flesh.

FRANK and ROBERT MATHEWS, New York City.
Scoter, in the flesh, Long Beach, N. Y.

W. DEW. MILLER, New York City.
Finch, in the flesh.

DR. ROBERT T. MORRIS, New York City.
4 Hawks and 1 Owl, Stamford, Conn.

MRS. W. W. NAUMBURG, New York City.
36 Bird skins, Baden, Germany.
61 Bird skins, South America.

NEW YORK ZOOLOGICAL SOCIETY, New York City.
South American Ground Hornbill, Parakeet, Red-rumped Parakeet, 2 Geese, 3 Parrots, 4 Herons, Tinamou, Partridge, 3 Tanagers, 2 Weavers, Horned Owl, Loon, Ring-necked Teal, Barn Owl, Starling, 4 Fruit Pigeons, Eagle, Minah, 2 Cockatoos, Blue Bird of Paradise, Honey Creeper, Lovebird, 2 Gulls, Pitta, Penguin (Galapagos Island), Toucan, 3 Waxbills, Finch, Flicker, Curassow, Stork, Plover, egg of Pigeon.

J. T. NICHOLS, New York City.
Pigeon, in the flesh.

JOSEPH ORR, New York City.
Oriole, in the flesh, Santa Marta.

CHARLES A. PHILHOWER, Westfield, N. J.
Skin of White-winged Crossbill and Scarlet Tanager, Westfield.

CLARENCE POLLACCIA, New York City.
Pigeon, New York City.

W. H. N. PRITCHARD, Bishop, Cal.
7 Skins of Humming birds.

CHARLES H. ROGERS, Princeton, N. J., and JAMES P. CHAPIN, New York City.
19 Birds in alcohol, Panama.

DR. L. C. SANFORD, New Haven, Conn.
101 Bird skins; skin of Sabine's Gull, Colorado Springs, Col.; skin of Huatusco Sparrow, Mexico.

J. B. SHROPSHIRE, Ancon, C. Z.
Boat-billed Heron, France Field, Cristobal, C. Z.

PAUL F. STILLMAN, Bay Head, N. J.
Tanager in the flesh, Bay Head.

JESSE W. STUART, Hilburn, Rockland Co., N. Y.
Flicker, in the flesh, from Rockland Co.

JAMES SWEENIE, New York City.
Canary in the flesh.

J. VON LENGERKE, New York City.
1 Marsh Hawk, 2 Sharp-shinned Hawks, 1 Duck Hawk, 1 Snow Bunting and 2 Crows, in the flesh; Sussex Co., N. J.

EDWARD NEVILLE VOSE, New York City.
Skin of Flamingo, Bolivia.

JOSEPH R. WALSH, Brooklyn, N. Y.
Nest of Humming-bird, Island of Montserrat, W. I.

MRS. E. H. WHITE, New York City.
1 Parrot, in the flesh.

LAIDLAW WILLIAMS.
1 Ruffed Grouse, in the flesh, Long Island, N. Y.

TULLIE WILLIAMS, Back Bay, Va. (through Miss A. M. Jungmann, New York City).
1 Canvas Back Duck, in the flesh, Back Bay, Va.

SCOTT B. WILSON, Lymington, Hants, England.
Canary Island Wood Pigeon.

MRS. MABEL OSGOOD WRIGHT, Fairfield, Conn.
2 Crows, Fairfield.

By Exchange

RAFAEL BARROS V.
50 Bird skins, Chile.

DR. L. BAYER, Brussels, Belgium.
Skin of Emerald Cuckoo.

BROOKLYN MUSEUM, Brooklyn, N. Y.
1,121 Bird skins, Venezuela and French Guiana. Collected by George K. Cherrie.

A. L. BUTLER, St. Leonard's Park, Horsham, Eng.
25 Humming-bird skins.

CALIFORNIA ACADEMY OF SCIENCES, San Francisco, Cal.
70 Bird skins, Galapagos Is.

CANTERBURY MUSEUM, Christchurch, N. Z.
18 Bird skins.

CARNEGIE MUSEUM, Pittsburgh, Pa.
27 Neotropical Birds.

CONGO MUSEUM, Tervueren, Belgium.
Skin of Guinea Fowl, Bolobo, Belgian Congo. Collected by Dr. H. Schoutedeni.

DURBAN MUSEUM, Durban, Natal, South Africa.
164 Bird skins, South Africa.

DR. J. DWIGHT, New York City.
Skin of Quail, Costa Rica. Collected by Austin Paul Smith.

FIELD MUSEUM OF NATURAL HISTORY, Chicago, Ill.
268 Bird skins.

PROF. A. L. HERRERA, Mexico City, Mex.
20 Bird skins, Lower California.

MUSEUM OF COMPARATIVE ZOOLOGY, Cambridge, Mass.
4 Bird skins, from Cameroon.

PRINCETON MUSEUM, Princeton, N. J.
Skin of Scarlet Ibis, from Isla de Plata, Venezuela. Collected by T. S. Gillen.

JACOB A. REIS, JR., Sakbayeme, via Edea, Cameroon.
87 Bird skins, Cameroon.

UNITED STATES NATIONAL MUSEUM, Washington, D. C.
Skin of Costa Rican Wood Pewee and skin of Flat-billed Vireo.

By Purchase

66 Antarctic Bird skins.
424 Bird skins, Belgian Congo.
Skin of Limpkin, Florida.
2,742 Bird skins, Ecuador.
10 Bird skins, Central Africa.
22 Bird skins, Brazil.
94 Bird skins, Madagascar.
100 Bird skins, Tanganyika Territory, Africa.
Skin of Lyre Bird, Australia.
Skins of Shearwater, Flycatcher, Babbler, and Broadbill.
108 Bird skins.
75 Skins of Old World Birds and 21 Neotropical Bird skins.
1 *Drepanis pacifica.*
Skin of *Moho apicalis* and 20 African Bird skins.
1,392 Bird skins, Peru.
Skin of Goose.

Through Museum Expeditions

39 Bird skins, Ecuador. Collected by H. E. Anthony.

FAUNTHORPE-VERNAY INDIAN EXPEDITION:
21 Skins of Hornbill, Margherita, Upper Assam. Collected by H. N. Collart.
233 Bird skins, India. Collected by H. N. Collart.
32 Birds in alcohol, Santo Domingo. Collected by Dr. G. K. Noble.
149 Bird skins, Australia. Collected by H. C. Raven.

THIRD ASIATIC EXPEDITION:
128 Bird skins, China. Collected by Roy C. Andrews.

WHITNEY SOUTH SEA EXPEDITION:
5,978 Bird skins, nests and eggs of many species, and several hundred herbarium specimens; South Sea Islands. Collected by R. H. Beck.
Skin of Cotinga and skin of Finch, Chical, Ecuador. Collected by G. H. H. Tate.

DEPARTMENT OF MAMMALOGY

BY GIFT

CHARLES ALLGOEVER, New York City.
Common Mole, East Northport, L. I.

A. BAUDON, Saunke, Karagoua Koudou, Moyen Congo, French Congo.
2 Bats, Loango, French Congo.

DANIEL BEACON, New York City.
Hippopotamus skull.

OSCAR G. BECHTEL, New York City.
Large Brown Bat, New York City.

BIRDCRAFT SANCTUARY, Fairfield, Conn.
3 Specimens Pine Mouse and Pine Meadow Vole, Fairfield, Conn.

J. H. BLEISTEIN, INC., New York City.
Skins of Albino Otter and of Albino Sable, China.

COURTENAY BRANDRETH, Ossining, N. Y.
Pigmy Shrew, Adirondacks, N. Y.

W. DOUGLAS BURDEN, Syosset, L. I.
Specimens of Water Buffalo, Gaur, Banteng, Sambar Deer, Muntjac, Hog Deer, Eld's Deer, Boar, Civet, Genet, Paradoxure, Indo-China.

CAPT. NEITE CALDWELL, Nairobi, Kenya Colony, East Africa.
5 Skins, 2 skulls, and 3 complete skeletons of Monkeys, Tana River, East Africa.

T. DONALD CARTER, New York City.
45 Specimens of Free-tailed Bats, Florida.

JAMES L. CLARK, New York City.
1 Bat, skin and skull, 1 Hippo skull, 1 skull of Grant's Zebra, Tanganyika Territory, East Africa.

MRS. U. S. CLARY, Prattsburg, Steuben Co., N. Y.
Star-nose Mole, Prattsburg.

IRVIN S. COBB, Ossining, N. Y.
Black Bear skull, Squaw Flats, Harney Co., Ore.

MRS. J. HENRY COHEN, Elmsford, N. Y.
Woodchuck, Elmsford.

PHILLIP COHN, New York City.
1 Specimen of Say's Little Brown Bat, Coxsackie, N. Y.

RUSSELL J. COLES, Morehead City, N. C.
2 Specimens Porpoise and 1 embryo Porpoise, North Carolina.

GEORGE COUGHLIN, New York City.
2 Gray Squirrels and 1 Tree Porcupine, New York.

JOHN B. DEANE, New York City.
Skin of Siberian Marten, Nikolaievsk.

MR. DOWNS.
Chow Dog.

DAVID DOWS, Brookville, L. I.
Muntjac head (mounted).

CHARLES H. FINNEY, Pottersville, N. J.
Norway Rat, Pottersville.

G. W. FRIEDRICH, St. Cloud, Minn.
Albino Red Squirrel, near Minneapolis.

HAGENBECK BROTHERS CO., Hoboken, N. J.
Indian Elephant.

ARCHIBALD HARRISON, New York City.
Horns of White-tailed Deer, South Carolina.

FRANCIS BURTON HARRISON, Teaninich, Alness, Scotland.
2 Cingalese Elephant skulls, Ceylon.

H. H. JOHNSON.
3 Bats in alcohol, from Hunan, China.

MARTIN JOHNSON, New York City.
2 Skins of Moles, without skulls, Elephant jaw and skull, 2 Rhino jaws and skulls, and 2 Zebra skulls (1 with jaws), East Africa.

W. L. JONES, New York City.
2 Pairs of Moose horns, locked.

ELLIS F. JOSEPH, Sydney, Australia.
3 *Macropus*, 1 *Trichosurus*, 1 *Sarcophilus*, Australia.

FREDERIC S. LOTTO, Flushing, L. I.
2 Mounted Monkeys.

DR. F. A. LUCAS, New York City.
2 Field Mice, Plymouth, Mass.

MISS ALICE MALLOY, New York City.
Ruby Blenheim Spaniel.

HERMANO NICEFORO MARIA, Bogota, Colombia.
Collection of 108 Mammals, Bogota, Colombia.

C. H. MCEVOY, Lyme, N. H.
Black Rat, from Lyme.

NICHOLAS MENGRELIS, New York City.
Skin of Mongoose, Macenda, French Guinea, West Africa.

DR. R. C. MURPHY, New York City.
2 Vampire Bats, without skulls, Asia Island, Peru.

ALPHONSE NEU, New York City.
Baboon skull, Mandara Mountains, Cameroon.

NEW YORK AQUARIUM, New York City.
Harbor Seal.

NEW YORK ZOOLOGICAL SOCIETY, New York City.
Peccary, Rat Kangaroo, Suricate, Himalayan Tahr, Leopard, African Leopard, Aoudad, 1 Baboon, 2 African Baboons, Two-toed Sloth (South America), 2 Gray Foxes, Caffre Cat (South Africa), Hunting Dog, 3 Monkeys, Colobus Monkey, 2 Cebus Monkeys, Sapajou Monkey, Spot-nosed Monkey, Spider Monkey, Woolly Monkey, Campbell's Monkey (Africa), Squirrel Monkey, 2 Canadian Porcupines, Indian Porcupine, Porcupine (South America), Canadian Tree Porcupine, South American Tree Porcupine, Armadillo, 2 Raccoons, Bear, young Brown Bear (Asia), Tibetan Brown Bear, American Black Bear, Kangaroo, 3 Red Kangaroos (Australia), Central American Squirrel, South American Squirrel, Fox Squirrel, Malabar Squirrel, Mexican Red-bellied Squirrel, Spring Buck, Malayan Sambar Deer, Coatimundi, 4 Phalangers, Lemur, Mongoose, Indian Mongoose, Ocelot, Aard-wolf (South Africa), 2 Lionesses, Black Swamp Wallaby, Genet, Florida Lynx, Barbary Ape, Mongolian Hedgehog, Marmoset, Badger, Spotted Skunk, Ringtailed Cat, Tree Shrew, Puma cub and Spotted Cavy (South America), Tayra, Tasmanian Devil, Paca, Wombat, Bandicoot, Albino Woodchuck, Opossum (British Guiana).

MRS. WILLIAM NIGH, New York City.
Black-eared Marmoset ("Tito").

DR. G. KINGSLEY NOBLE, New York City.
Red Bat, Saybrook, Conn.

EMILE PAQUETT, Gaspé, Canada.
Snow-shoe Rabbit and Red Squirrel, Gaspé.

DEPARTMENT OF PARKS, New York City.
American Badger, South American Llama, Wallaby, Llama, Puma, Red Fox, European Red Deer Stag.

P. G. PUTNAM, Pullman, Wash.
Mink and Mashed Shrew, Lake Cushman, Wash.

J. G. RAMSAY, São Paulo, Brazil.
Maned Wolf, 2 Wolf skins, Ant-eater, Armadillo, Brazil.

HENRY STOCKMAN ROBINSON, Point Pleasant, N. J.
Northern Weasel, Point Pleasant.

C. F. Ross, Tunkhannock, Pa.
Field Mouse and young.

ERNEST THOMPSON SETON, Greenwich, Conn.
Mink, Greenwich.

MRS. D. STIEFEL, New York City.
2 Pieces of whalebone, Spitzbergen.

H. F. STRYKER, Jefferson, N. Y.
Red Squirrel, Jefferson.

HERMAN STURCKE, Lava, Sullivan Co., N. Y.
Snowshoe Rabbit, Sullivan Co., N. Y.

G. H. H. TATE, Tabor, N. J.
12 small Mammals, New Jersey.

W. TAYLOR, Vancouver, B. C.
3 Mice, Jumping Mouse, Black Rat, Marmot, Vancouver.

JOHN W. TITCOMB, Hartford, Conn.
European Hare, Connecticut.

HENRY WAGNER, New York City.
Skin of Albino Kolinsky, Mukden.

MRS. WILLIAM H. WEIR, Edgewater, N. J.
Airedale Dog ("Jerry").

HAROLD H. WILCOX, Nutley, N. J.
Gentle Lemur, adult and 2 young specimens of Flying Phalanger.

W. H. WOODS, Ft. Calhoun, Washington Co., Neb.
Collection of bones of American Bison and Mule Deer.

HARRISON WILLIAMS GALAPAGOS EXPEDITION OF THE DEPARTMENT OF TROPICAL RESEARCH OF THE NEW YORK ZOOLOGICAL SOCIETY.
5 Skins and skeletons of Sea-lions, from Galapagos. Collected by William Beebe.

By Exchange

British Museum (Natural History), London, England.
Cast of Commerson's Dolphin (original from Stanley Harbor, Falkland Islands).

E. C. Chubb, Durban, Natal, South Africa.
6 Golden Moles, skins and skulls, from Durban.

San Diego Society of Natural History, San Diego, Cal.
12 Skins and skulls of Rodents, California.

By Purchase

87 Mammal skins, British Guiana.
108 Small Mammal skins and skulls, Lower California.
5 Young Raccoons.
26 Small Mammals, Mexico.
Squirrel, from Panuco, Mexico.
2 Very young specimens of Moles, Lynville, Ky.
Skin and manikin of male Elk, Wyoming.
One-horned Rhinoceros, Nepal, India.
4 Raccoons (female and three young).
Adult female Mole and 4 young specimens of Mole, Tyner, Ind.
Gibbon skull.
Indian Lion-skin rug, Gir Forest, India.
203 Specimens of Mammals, British East Africa.
3 Young specimens of Moles, Marietta, S. C.
2 Specimens of half-grown Moles, New Brunswick, N. J.
80 Mammal skins and skulls, Peru.

Through Museum Expeditions

1,330 Mammals, skins and skulls, from Ecuador. Collected by H. E. Anthony and G. H. H. Tate.
647 Specimens of Mammals, from Ecuador. Collected by G. H. H. Tate.

Third Asiatic Expedition:
1,821 Mammals, from Asia. Collected by Roy Chapman Andrews.

Faunthorpe-Vernay Indian Expedition:
127 Mammal specimens, from India. Collected by Col. J. C. Faunthorpe and Mr. Arthur S. Vernay.
220 Mammal specimens, from New York and Province of Quebec, Canada. Collected by George Goodwin.
1,200 Mammals, from Australia. Collected by H. C. Raven.

Whitney South Sea Expedition:
45 Specimens of Muridæ, from Polynesia. Collected by R. H. Beck and E. H. Quayle.
308 Mammal specimens, from Ecuador. Collected by H. E. Wickenheiser.

DEPARTMENT OF ANTHROPOLOGY

By Gift

Roy Allgood, New York City.
Miscellaneous ethnological collection.

Dr. R. W. Amidon, Chaumont, Jefferson Co., N. Y.
Celt, from Pt. Salutrious, Chaumont Bay.

Anonymous.
2 Skeletons.
1 Pair fur shoes, North Russia.
Australian skeleton.

Mr. and Mrs. W. M. Baldwin, East Hampton, L. I.
Ethnological specimens, Argentina, Paraguay, etc.

Charles J. Bates, New York City.
Archæological specimens from shell mound, Tidy Island, Sarasota Bay, Fla.

Mrs. Arthur Brewer, Bridgeport, Conn.
Beaded object containing 6 glass bottles, Asia.

Miss Mary Bussing, New York City.
1 Pair moccasins (beaded) and 6 old Indian ornaments, North America.

Ellis Parker Butler, Flushing, L. I.
Manuscript of Navajo traditions, from New Mexico, written in 1868. Writer unknown.

Frederick H. Cohen, Jr., New York City.
Ethnological specimens, Ecuador.

Mrs. Elliot L. Dow, Summit, N. J.
Basket, from Malaysia.

Lieut. George T. Emmons, Princeton, N. J.
Ethnological specimens from the Northwest Coast of North America.

Col. J. C. Faunthorpe.
Snares used for antelope by the Pasis of Oudh, India.

Mrs. H. J. Fisher, Greenwich, Conn.
Large basket, Fraser River.

Arthur D. Gabay, New York City.
7 Pottery fragments and 2 stone implements.
Grooved stone ax and 15 arrowpoints, New York and Pennsylvania.

Lieut. Alfred Gardner, U. S. A.
Collection of ethnological specimens, Southwestern United States.

Eugene A. Gellot, New York City.
Skeleton, Aqueduct, L. I.

Department of Geology (Transfer).
Obsidian artifacts from Wotchatcha Mountains, Central Abyssinia, Africa.

Dr. P. E. Goddard, New York City.
Basket, Northwestern California.

Dr. J. C. Graffin (deceased)—through Mrs. J. C. Graffin, Shiprock, N. M.
Navajo doctor's bundle.

Dr. W. K. Gregory, New York City.
Collection of chipped stone artifacts, Australia.

Dr. W. L. Hildburgh, London, England.
Obsidian mirror, Mexico.

Mrs. Prescott D. Hoard, New York City.
Pair baby's moccasins, Arizona.

Mrs. F. C. Holden, New York City.
Eider-duck blanket, Greenland.

Thomas Temple Hoopes, New York City.
Clasp knife used by the Spanish and Portuguese sailors about 1850.

Dr. John Husson, New York City.
Old English gun.

B. T. B. Hyde, New York City.
Portion of steatite vessel. Roaring Springs, Va.; 2 pieces of beadwork, 80 negatives and about 80 prints illustrating archæology of the San Juan Drainage Basin in Utah and Arizona.

Commissioner of Indian Affairs (through Miss A. E. White), Washington, D. C.
Manuscripts, photostatic copy, from Hopi Indians.

Miss Mary L. Kissell, New York City.
Goat-hair blanket, British Columbia.

Mrs. Edith Wallace Knowles, New York City.
Collection of ethnological specimens, Bolivia, Santo Domingo, and the Navajo Indians of Arizona.

Herbert Lang, New York City.
Cassava grater, cassava squeezer, and other ethnological specimens, British Guiana.

Townsend Lawrence, New York City.
Eskimo harpoon and dog whip, Davis Inlet, East Coast of Labrador.

James M. Lehmaier, New York City.
Pottery vessel, Peru.

Victor L'Hote, New York City.
Pair earrings, Alaska.

C. McK. Lewis, New York City.
Ethnological material, Southern Japan, or China.

A. Littlefield, New York City.
Arrowpoint, Throgs Neck, N. Y.

William S. Marr, New York City.
Stone bearing carvings of prehistoric nature, Porto Rico.

E. P. Mathewson, New York City.
Collection of archæological, ethnological, and skeletal material from Peru.

Edward A. McDonnell, New York City.
Ax and 2 points, near Dover, Del.

Prof. J. H. McGregor, New York City.
Fragments of flint implements of Solutrean date and archæological material from the Mousterian and Aurignacian culture levels, Charente, France.

J. Miln Museum, Carnac, France (through Mrs. Henry Fairfield Osborn).
Collection of chipped and polished stone implements with some beads and potsherds, Brittany, France.

J. Reid Moir, Ipswich, England.
Archæological specimens, England.

John M. Muir, Tampico, Mexico.
Collection of pottery idols and heads, Panuco, Mexico.

Musee Royal d'Histoire Naturelle, Brussels, Belgium.
Archæological collection of chipped stone implements, Tasmania.

Alphonse Neu, New York City.
Wooden idol, Babungo tribe, District of Bamenda, Cameroon, Africa.

A. J. Nott, New York City.
Arrowpoints, from Georgia.

Adam Ogint, New York City.
Tattooing outfit (primitive and modern).

Department of Ornithology (transfer).
Fire plough, Timoe Island (South Seas). Collected by E. H. Quayle.

FRANK S. PARKER, New York City.
Adult Indian skeleton, Throgs Neck, Westchester, N. Y.

DR. ELSIE CLEWS PARSONS, Harrison, N. Y.
Small collection of feather-sticks and a few pieces of potsherds, from Cochiti, N. M. Collected by Professor Franz Boas and Miss Esther Schiff.

PROF. FLINDERS PETRIE, London, England.
Collection of pottery, stone implements and skeletal material, Egypt.

HAL PHYFE, Lake George, N. Y.
Skeletal material, Montcalm's Camp and Graveyard, Lake George.

MISS G. F. PUGH, Ozone Park, L. I.
Woven robe, from Africa.

WALLACE J. PURDIE, Guatemala City, C. A.
Stone image and stone grinder (metate).

H. C. RAVEN, New York City.
Archæological and ethnological specimens, Australia.

ALBERT B. REAGAN, Ganado, Ariz.
Potsherds, from Arizona.

DR. CELESTINO RENCOMO, Port-au-Prince, Haiti (through F. E. Watson).
100 Photographs of Indian pottery, etc., Haiti.

M. F. SAVAGE, New York City.
Ethnological and archæological specimens, various localities.

A. B. SCOTT.
Fragment of human mandible, Henderson, N. Y.

MRS. JAMES D. SHIPMAN, New York City.
2 Paddles, Honduras, and 19 arrowheads, Connecticut.

MRS. ERNA GUNTHER SPIER, Seattle, Wash.
Specimen of fireweed in flower and seed, Skokomish, Wash.

C. R. STEGALL, Rossville, Ga.
Stone implements of Palæolithic date, Belgian Congo, Africa.

WILLIAM SULZER, New York City.
Woven basket, bag of gooseskin and fur neck piece, Siberian Eskimo.

E. H. L. THOMPSON, New York City.
Ethnological specimens (Eskimo doll in costume of Killinemuit woman and model of kayak), Northwest Territory and Hudson Bay.

WILLIAM A. UNDERHILL, New York City.
Large grooved stone ax, Croton Pt., Westchester Co., N. Y.

DR. BELISARIO VALVERDE, New York City.
Ring carved of a nut, Indians of Cochabamba, Bolivia.

A. H. VERRILL, New York City.
Manuscript by Mr. Verrill about the Indians of South America.

F. N. WATERMAN, New York City.
Stone ax found in southwestern part of North Carolina.

PAUL WERNERT, Strasbourg, Alsace, France.
2 Fragmentary adult skulls, jaws and skeletons and 8 potsherds, from Neolithic burial place at Achenheim, near Strasbourg; 29 stone axes, from Wangen Lake Dweller Station, Lake Constance, Switzerland.

M. M. WHITAKER, Nyack, N. Y.
2 Pottery vessels, Peru.

MRS. H. A. J. WILKINS.
Miscellaneous collection, South America.

W. D. WOOD, New York City.
Skeletal material, Long Island.

DR. GEORGE AUSTIN WYETH, New York City.
Shrunken head, Jivaro Indians, Ecuador.

BY EXCHANGE

DR. G. HORNE, Melbourne, Australia.
Collection of stone artifacts, Australia.

MUSEE ROYAL D'HISTOIRE NATURELLE, Brussels, Belgium.
Archæological collection, Belgium.

PUBLIC LIBRARY, MUSEUM, AND ART GALLERY, Adelaide, South Australia.
2 Casts (figures), Australia.

BY PURCHASE

About 45 Mongolian and Tibetan specimens.

1,200 Specimens of Palæolithic and Neolithic flint and stone implements, West Africa.

4 Gold plates, Peru.

Archæological collection, Switzerland.

Collection of 148 archæological specimens, mostly from Danube Valley, near Budapest, Hungary.

4 Painted skulls and 1 pottery vessel, New Guinea.

Bamboo container and 3 photos showing location and tribe, Sumatra.
Tally cord for counting days in advance of Shalako. Collected by Dr. Elsie Clews Parsons at Zuni, N. M.
Model of flint miners' pit at Grimes Graves, Norfolk, England.
Silver cup beaten out of one piece of metal, Peru.
Eoliths from Puy de Boudieu and Puy Courny, Cantal, France, and from Kent Plateau, England.
Casts of archæological specimens of chipped flints, Belgium.
Ethnological collection and a few archæological specimens, Catawba Indians.
Anatomical collection—skeletons and skulls of various races of man; from Chatham Is., Australia, New Guinea, Marshall Is., Nicobar Is., Andaman Is., India, Germany, Africa, and Brazil.
7 Pottery vessels, 1 wooden vessel and 2 wooden spoons, Tacna, Chile.
Specimens of Weaving, Chile.
Series of casts of typical Swiss prehistoric specimens.
Stone ax, Potsdam, Germany.

THROUGH MUSEUM EXPEDITIONS

Human skull, from Punin, Ecuador. Collected by H. E. Anthony.
Totem pole, Tsimshian Indians, and 2 portions of wooden sail from Kwakiutl Indians, British Columbia. Collected by Dr. P. E. Goddard.
Archæological and skeletal material, New Mexico. Collected by Earl H. Morris.
Archæological material (chipped implements), Missouri and Kentucky. Collected by N. C. Nelson.
Skeletal material, Lamy, N. M. Collected by Dr. Louis R. Sullivan.

DEPARTMENT OF COMPARATIVE ANATOMY

BY GIFT

W. R. BROWN, Berlin, N. H.
Arabian stallion, "Badoura," in the flesh.
HENRY DITTMAR, Jamaica, N. Y.
5 Egg capsules, 2 containing embryos, of Ray, Long Beach, N. Y.
WILLIAM HINDI & BRO., Duran, N. M.
Domestic sheep, Duran, N. M.
INTERNATIONAL NEWSREEL CORPORATION, New York City.
Photograph of high jump—Bayard Ryder.
MARTIN JOHNSON, New York City.
Photograph of Grant's Zebra at water-hole, showing 26 individuals, from Africa.
ELLIS JOSEPH, Granville, N. S. W.
Young Camel.
MAYENSBORO ARABIAN STUD, Berlin, N. H.
Left fore foot of Arabian horse.
Left fore foot of foal (4 days old).
G. S. MCCLINTOCK, Wilkes-Barre, Pa.
Homo, femur; *Homo australus*, mandible (Australia); *Pongo pygmæus*, skeleton, mounted (Borneo).
NEW YORK ZOOLOGICAL SOCIETY, New York City.
Rhesus Monkey; *Parameles nasuta. Sarcophilus ursinus, Trichosurus*, 2 *Macropus rufus*, Tasmania and Australia; Gelada Baboon; Ocelot, South America; *Silenus* (*Cynamolgus*) sp., India; Mongolian Wild Horse (*E. przewalski*); Spotted Cat (*Dasyurus*), Australia; *Midas* (*Œdipomidas*) *œdipus*, South America; Python, Monitor, from Australia; Tortoise, Florida.
DR. S. V. RAMSEY, Terre Haute, Ind.
Skeleton of Giant Horse.
ALBERT THOMSON, New York City.
Horse skull, Sioux Co., Neb.

BY EXCHANGE

DR. ELLIOT SMITH, University College, London.
Brain of *Tarsius*.
VICTORIA MUSEUM, Launceston, Tasmania.
Osteological specimens, recent and subfossil (Cat. Nos. 350-459), mostly separate bones.

THROUGH MUSEUM EXPEDITION

FIRST AUSTRALIAN EXPEDITION:
239 anatomical specimens of mammals or parts of mammals.

MISCELLANEOUS

BY GIFT

FREEMAN D. BAERMAN, Dunellen, N. J.
Black mottled Houdan Fowl and red mottled Houdan Fowl.

By Purchase

5 Skins of Sanderling.
4 Living Raccoons, Colesville, near Tunnel, N. Y.

ART

By Gift

Miss Emily Somers Haines, Toms River, N. J.
Portrait of William A. Haines, by Butler.

Arthur Curtiss James, New York City.
2 Paintings of undersea scenes by Zarh H. Pritchard, "Coral Garden in the Lagoon, Maraa, Tahiti."

John Burling Lawrence, New York City.
Oil painting of Coyotes by Audubon.
Enlargement of photograph of Audubon, framed.
Crayon portrait of the late Daniel Giraud Elliot, by Akins.

President Henry Fairfield Osborn and Mrs. Osborn, Percy R. Pyne, Dr. Walter B. James, and Mrs. Edward H. Harriman (through Mrs. Osborn).
Bust of Pasteur, by P. Dubois.

Consul-General F. Roel, Mexican Consulate, New York City.
4 Photographs of bronze statue of Guantemoctzin presented by Mexico to Brazil.

Mrs. John Wood Stewart, New York City (in memory of Mr. John Wood Stewart).
Painting of undersea scene by Zarh H. Pritchard, "Coral Garden."

Mrs. W. K. Vanderbilt, New York City.
Painting of undersea scene by Zarh H. Pritchard, "Coral Pinnacles in the Lagoon of Maraa, Tahiti."

Paul M. Warburg and Miss Bettina Warburg, New York City.
Painting of undersea landscape by Zarh H. Pritchard, "Coral Garden, Maraa, Tahiti."

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Carr, James A.
Carrick, Robert E.
Carse, John B.
Carter, Ernest T.
Carter, Mrs. Ernest T.
Carter, Robert A.
Carty, John J.
Carver, John L.
Casamajor, Dr. Louis
Case, Mrs. Charles L.
Case, J. Herbert
Case, Theodore W.
Caspary, A. H.
Cass, Charles Anderson
Cassard, Wm. J.
Castle, Chas. C.
Cauty, Frank H.
Chace, Arthur F.
Chadbourne, William M.
Chalmers, Arthur A.
Chamberlain, Edward B.
Chambers, Frank R.

Chambers, Geo. J.
Chambers, Hilary R.
Champ, William S.
Chandler, George W.
Chandler, Norman Wilmer
Chandler, Percy M.
Chandor, Miss Valentine L.
Chanler, Winthrop
Chapin, C. H. B.
Chapin, Miss Cornelia Van A.
Chapin, Elizabeth G.
Chapin, Miss Maria Bowen
Chapman, Clarence E.
Chapman, John Jay
Chapman, Mrs. John Jay
Charita, Sister M.
Charles, Lillian M.
Chase, George
Chase, Mrs. John McClure
Chatillon, George E.
Chauncey, A. Wallace
Chaves, José E.
Cheever, H. Durant
Cheney, Geo. L.
Cheney, Mrs. K. D.
Cheney, Louis R.
Cheney, O. H.
Chester, C. L.
Chester, Hawley T.
Child, Miss Ruth Auchincloss
Childs, Mrs. Starling W.
Childs, S. W.
Childs, Wm.
Chilton, H. P.
Chisholm, George E.
Chisholm, Hugh J.
Chisholm, Mrs. Hugh J.
Chisolm, B. Ogden
Chisolm, Mrs. B. Ogden
Choate, Mrs. A. O.
Choate, Mrs. Caroline S.
Choate, Mabel
Christie, R. E.
Chubb, Mrs. F. Y.
Chubb, Percy
Chubb, S. H.
Church, C. T.
Church, Louis P.
Cillis, Hubert
City and Country School
Claflin, Mrs. George E.
Claflin, John
Clancy, John Evarts
Clapp, A. P.
Clapp, Frederick G.
Clapp, George H.
Clark, Anna M.
Clark, A. Wayne
Clark, Mrs. Charles M.
Clark, Charles Martin
Clark, Clarence M.
Clark, Edward S.
Clark, Miss E. Mabel
Clark, George C., Jr.
Clark, George H.
Clark, Harold Benjamin
Clark, Harold T.
Clark, Henry A.
Clark, Howard R.
Clark, John M.
Clark, Mrs. John Peyton
Clark, J. William
Clark, Louis C.
Clark, Nelson S.
Clark, W. A.
Clark, William
Clarke, E. A. S.
Clarke, Thomas B.
Clarkson, Miss Annie
Clausen, Charles S.
Clausen, George U.
Clayburgh, Albert
Cleary, Thomas M. E.
Clemens, Dr. James B.
Clerici, John
Cleveland, Clement, M.D.
Cleveland, M. E.
Cleveland, Newcomb
Clinch, Edward S.
Close, Walter H.
Clowes, Francis J.
Clowes, Frederick V.
Clowry, Robert C.
Coakley, Cornelius G., M.D.
Coates, Mrs. O. B.
Cobb, Frank I.
Cochran, G. D.
Coddington, Mrs. Clarence Morgan
Coffin, Miss Alice S.
Coffin, C. A.
Coffin, Edmund
Coffin, Francis A.
Coffin, I. Sherwood
Coffin, Mrs. Sturgis
Coffin, William S.
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Cohen, Arthur J.
Cohen, DeWitt Clinton
Cohen, Julius Henry
Cohen, Dr. Martin
Cohen, Max
Cohen, Morse K.
Cohen, William W.
Cohen, Wm. N.
Cohn, Martin L.
Coker, James Lide
Cole, Frederic A.
Cole, Rufus
Cole, Mrs. Rufus
Colebrook, Charles B.
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Coleman, L. W. T.
Colgate, Mrs. A. W.
Colgate, Gilbert
Colgate, Henry A.
Colgate, James C.
Colgate, Lathrop
Colgate, Mrs. Richard M.
Colgate, Russell
Collier, Mrs. R. J.
Collins, Harry
Collins, P. D.
Colp, Dr. Ralph
Colt, Harris D.
Colt, Richard C.
Comly, Garrard
Conboy, Martin
Condit, Dudley N.
Cone, Bernard M.

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Cone, Frederick H.
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Conklin, Mrs. W. R.
Connable, Mrs. John Lee
Connell, Herbert Stanley
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Conway, W. Palen
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Cooley, Mrs. Elmer E.
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Coonan, J. E.
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Cooper, F. G.
Cooper, Henry E.
Cooper, Mrs. M. Le Brun
Cooper, Theodore H.
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Corlies, Howard
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Cowl, Mrs. Clarkson
Cowles, Dr. Edward S.
Cowles, Mrs. Percival W.
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Crampton, Mrs. Henry E.
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Crane, Mrs. Jonathan H.
Crane, Mrs. Winthrop M., Jr.
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Crawford, H. L.
Crawford, Mary M., M.D.
Crawford, Wm.
Crile, George W., M.D.
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Crimmins, Mrs. Thomas
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Crocker, W. T.
Crockett, Mrs. Stuart
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Cromwell, Lincoln
Cromwell, Seymour L.
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Cross, Mrs. R. J.
Cross, W. R.
Crossley, G. R.
Crozer, John P.
Crump, Dr. Armistead C.
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Cullman, Jos. F.
Cummin, Gaylord C.
Cunningham, Francis de L.
Cunningham, W. de L.
Curie, Chas.
Curiel, H.
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Curtis, F. Kingsbury
Curtis, G. Warrington
Curtis, Mrs. James F.
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Curtis, W. J.
Curtis, Wm. Edmond
Curtiss, Roy
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Cushman, James Stewart
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Dallett, Frederic A.
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Daniels, Lorenzo
Daniels, Mrs. Lorenzo
Daniels, Miss Norma M.
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Darlington, Clinton Pelham
Dashew, Jacob
Dater, John Grant
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Davenport, Wm. B.
Davenport, Wm. R.
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Davison, E. Mora
Davison, George W.
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Day, Miss Sarah J.
Day, W. A.
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de Forest, Lockwood
de Forest, Robert W.
de Forest, Mrs. Robert W.
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Degener, Paul A.
de Gersdorff, Mrs. Carl A.
De Golyer, E.
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Delafield, Mrs. John R.
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Delano, Lyman
De Lanoy, William C.
de Laugier-Villars, Countess
Delehanty, Wm. R.
de Long, Mrs. George B.
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Deming, L. C.
Dempsey, Geo. C.
Demuth, Leopold
Denby, Edwin H.
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Denny, Mrs. Lucy W.
Denton, Dr. Myron P.
de Perigny, Comtesse
Deppé, W. P.
de Ruyter, John E.
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De Sola, Solomon, D.D.S.
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Detjen, Wm. Edward
Detmer, Julian F.
Dette, William
Deutsch, Lee
De Vinne, T. B.
Dewey, Dr. Martin
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Deyo, Miss Margaret
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Dick, Madeleine T.
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Dominick, Gayer G.
Dominick, H. B.
Dommerich, L. W.
Dommerich, O. L.
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Donohugh, Mrs. Agnes C. L.
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Douglas, Mrs. Walter
Douglas, Rev. Winfred
Douglas, Wm. Harris
Douglass, Mrs. Chas.
Douglass, Mrs. G. A.
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Draper, George
Draper, Mrs. William K.
Draper, Mrs. Wm. P.
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Drayton, J. Coleman
Dressler, Mrs. Oscar
Drew, Charles V.
Drexel, Mrs. John R.
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DuBois, Eugene
DuBois, Mrs. Matthew B.
DuBosque, F. L.
Duell, Major Holland S.
Duer, Mrs. J. B.
Duke, Mrs. Cordelia Biddle
Dull, Mrs. A. P. L.
Dumbell, Henry T.
Duncan, Frederick S.
Duncan, Mrs. John P.
Duncan, Stuart
Duncan, Wm. A.
Dunham, Mrs. Carroll
Dunkak, Henry
Dunn, Henry E.
Dunne, Mrs. Finley Peter
Dunning, Dr. William B.

du Nouy, Mrs. Pierre Lecomte
Dupee, Charles
du Pont, Henry F.
Durkee, Eugene W.
Durkee, Richard P. H.
Durlach, Theresa Mayer
Dustin, Charles W.
Dutcher, John Gerow
DuVal, Mrs. Clive L.
Du Val, Guy
Duvall, William C.
Dwight, Major A. S.
Dwight, John E.
Dwight, Jonathan, M.D.
Dwight, Mrs. M. E.
Dwight, P. D.
Dwight, Mrs. Winthrop
Dworetzky, Morris

Earle, Ellis P.
Eaton, A. W.
Eaton, Cyrus S.
Eaton, Mrs. Frederick H.
Eaton, Geo. Dummer
Ebbitt, Mrs. W. H.
Ebert, C. R.
Eckart, Edmund
Ecker, F. H.
Eddy, Geo. Simpson
Eddy, Wm. H.
Eden, John H., Jr.
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Edge, Mrs. C. N.
Edgell, George Harold
Edie, Richard, Jr.
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Edson, Franklin
Edson, Marmont
Ehret, George, Jr.
Ehret, Mrs. Louis J.
Ehrich, Mrs. Adelaide Price
Ehrmann, Mrs. E.
Eilers, Karl
Eimer, A. O.
Eimer, August
Eimer, Walter R.
Einstein, I. D.
Einstein, Wm.
Eising, Dr. Eugene H.
Eisman, Max
Eisner, William J.
Eldridge, Lewis A.
Elkan, Benno
Elkus, Mrs. Abram I.
Elliman, Lawrence Bogert
Ellinger, Ernest
Elliott, Howard
Ellis, Ralph
Ellsworth, John S.
Elmer, C. W.
Elms, Franklin M.
Elsberg, H. A.
Ely, Carl B.
Ely, Mrs. William Henry
Emanuel, John Henderson, Jr.
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Emerson, Miss Julia T.
Emerson, Mrs. Wm.
Emmerich, Robert D.
Emmet, C. Temple
Emmet, Miss Lydia F.
Emmet, Robert Temple
Endicott, William Crowninshield
Enelow, H. G.
Engelhard, George H.
English, Geo. W.
Erb, Newman
Erbsloh, R.
Erdmann, Albert J.
Erdmann, John F., M.D.
Erdmann, Martin
Erdmann, William
Erdwurm, Frank, M.D.
Erlanger, Abraham
Erlanger, Milton S.
Erlanger, Sidney C.
Ernst, Irving L.
Erstein, Benedict
Esberg, Florence Sutro
Esberg, Henry
Estricher, Henry
Ethical Culture School
Ettlinger, Louis
Eustis, Mrs. W. C.
Evangelical Lutheran Church of St. Matthew, Parish School
Evans, Jackson
Evans, Dr. Samuel M.
Everitt, John W.
Ewing, Charles
Ewing, George R. M.
Exton, H. E.
Eyer, George A., Jr.
Eyer, Mrs. George A.

Fabbri, Mrs. Ernesto
Fabbri, Ernesto G.
Fahnestock, Harris
Fahnestock, William
Fahs, Louis A.
Fairbanks, Wallace
Fairchild, Charles S.
Fairchild, Mrs. Chas. S.
Fairchild, S. W.
Fairlie, Chester W.
Falk, Kaufman George
Farish, John B.
Farnam, Thomas W.
Farnsworth, William
Farrand, Max
Farrel, Mrs. Franklin
Fatman, Morris
Fatman, S. A.
Fay, Charles J.
Feingold, M. W.
Feldman, S. J.
Ferenbach, Mrs. Carl
Ferguson, Alfred L.
Ferguson, C. V.
Ferguson, Miss Eleanor
Ferguson, Harry L.
Ferguson, William C.
Ferns, Robert M.
Ferry, Mrs. Charles H.
Ferry, Mansfield
Feustman, L. P.
Field, Mrs. A. B.

Field, Henry
Field, Wm. B. Osgood
Field, Mrs. Wm. B. Osgood
Filley, Oliver D.
Fink, E. C.
Finn, Mrs. J. A.
Fischer, Hermann, M.D.
Fischer, T. Tasso
Fish, Erland F.
Fisher, Edwin A.
Fisher, Howell
Fisher, Samuel H.
Fisher, Walter G.
Fitzhugh, John L.
Fitzpatrick, Frank J. E.
Flagg, Mrs. Thyrza Benson
Flanagan, Mrs. Chas. A.
Flanagan, John R.
Flanigan, Horace
Fleischmann, Mrs. Chas.
Fleitmann, Fred. T.
Fleitmann, H. C.
Fleitmann, William Medlicott
Fleming, Mrs. George W.
Fleming, Matthew C.
Fleming, Stephen B.
Fletcher, Henry
Flexner, Mrs. Simon
Flood, Alaquah
Flower, Mrs. Anson R.
Floyd, William T.
Fobes, Harriet Keith
Fogg, Julius H. B.
Foot, Sandford D.
Forbin, V.
Ford, Franklin
Forsch, Mrs. F.
Forsyth, Robert
Fosdick, Raymond B.
Foshay, P. Maxwell
Foster, Mrs. Edward W.
Foster, Frank B.
Foster, Harold A., M.D.
Foster, Howard Crosby
Foster, Macomb G.
Foster, Pell W.
Foster, Walter H.
Foulk, Theo.
Fowler, Dr. Robert H.
Fowler, Russell S., M.D.
Fowler, Mrs. Thomas Powell
Fox, Mrs. A. J.
Fox, Miss Alice Bleecker
Fox, Cornelius F.
Fox, Frederick P.
Fox, Mortimer J.
Fox, William
Francklyn, Mrs. Cyril
Frank, Edgar E.
Frank, Joseph S.
Frank, Mrs. Laurence
Frank, Lawrence D.
Franke, Albert
Franke, Mrs. Albert
Franke, Julius
Frankel, D. J.
Frankel, Herbert
Frankel, Jacob L.
Frankenberg, Henry E.
Frankenberg, Werner V.
Frankenstein, Edwin
Frankfeld, B.
Frankfield, A.
Frankfort, M.
Franklin, George S.
Frantz, Angus Macdonald, M.D.
Fraser, Mrs. A. V.
Fraser, Mrs. C. D.
Fraser, George C.
Fraser, Miss J. K.
Fraser, Miss S. Grace
Fraser, Wm. A.
Frauenthal, Henry W., M.D.
Fredrick, Mrs. Leopold
Freedman, Leo
Freeman, Mrs. Blanche W.
Freeman, Herbert C.
Freisinger, Paul R.
Frelinghuysen, Mrs. Frederick
Frelinghuysen, P. H. B.
French, Daniel C.
French, Mrs. Daniel C.
French, Fred F.
Frese, Fred
Freundlich, Dr. David B.
Frew, Walter E.
Frew, Mrs. William N.
Fréy, Arthur G.
Fried, Dr. Gustav A.
Friede, Sydney A.
Friedlander, Louis
Friedlander, Victor
Friedlander, Wm. S.
Friedman, Henry M.
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Fries, Miss Emilie
Fries, Harold H.
Frissell, A. S.
Frissell, Miss Leila S.
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Frothingham, Mrs. Randolph
Frothingham, Robert
Frothingham, William I.
Frueh, Mrs. Alfred J.
Fuld, Felix
Fulle, Chas. A.
Fulle, John H.
Fuller, Mrs. Eugene
Fuller, Melville B.
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Fulton, Robert Edison
Funke, Herbert F. L.

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Galban, Eugenio
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Gallatin, Mrs. Albert
Gallatin, Goelet
Gallowhur, W. G.
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Ganss, Herman O.
Gardin, John E.

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Garfunkel, Aaron
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Garrett, Mrs. Thos., Jr.
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Gartland, George E.
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Garver, John A.
Gaston, Wm. G.
Gatti-Casazza, Giulio
Gawtry, Lewis B.
Gay, Edwin F.
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Gaylord, Irving C.
Geer, Robert C.
Geer, Walter
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Geller, Frederick
Gelshenen, William H.
Gerrish, Frank Scott
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Gibson, W. Frazer
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Gifford, Wm. E.
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Gilbert, Miss Ellen G.
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Gill, Kermode F.
Gillespie, Robert McM.
Gillespie, Samuel H.
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Goddard, Mrs. Morrill
Goddard, Ralph
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Goetz, Mrs. Joseph Addison
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Goldman, Alfred L.
Goldman, Julius
Goldman, Samuel P.
Goldman, Wm.
Goldmann, Nathan
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Goldsmith, Frederick
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Goldsmith, James A.
Goldsmith, Mrs. Maurice
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Goodfriend, Meyer
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Gordon, Walter R.
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Gossler, G. H.
Götberg, Miss Anna S.
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Gottgetreu, Wm.
Gottheil, Mrs. Paul
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Gould, Horace S.
Gould, Lyttleton B. P.
Gove, Marguerite
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Gray, Arthur R.
Gray, Henry G.
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Greenstein, Dr. Harry
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Greist, Mrs. Alva O.
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Grinnell, Dr. Robt. S.
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Gross, James S.
Gross, Moritz
Grossmann, Mrs. Edward A.
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Gruner, William C.
Gude, O. J.
Guernsey, Henry William
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Guggenheim, Simon
Guggenheim, Mrs. Simon
Guggenheim, William
Guggenheimer, Mrs. J. Cæsar
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Guinzburg, Mrs. Victor
Guiterman, Percy L.

Gunari, Andrew P.
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Gushee, R. A.
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Guthrie, Rev. William Norman
Gutterson, John Harris
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Hall, Henry J. S.
Hall, Julia R.
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Halsey, Harold V. W.
Halsey, Herbert D.
Halsey, Robert H.
Halsey, R. T. H.
Hamann, Wm. A.
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Hamburger, Samuel B.
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Hance, John A.
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Handy, Parker D.
Hansen, Ferdinand
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Hard, DeCourcy L.
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Hardenbergh, Mrs. W. P.
Hardin, William B.
Hardinge, Mrs. H.
Hardon, Mrs. Henry W.
Hardy, Charles J.
Hardy, Dr. Sarah Belcher
Hare, J. Montgomery
Hare, Mrs. Montgomery
Hare, William
Harlow, Arthur H.
Harmon, Mrs. Clifford
Harmon, Rawson B.
Harriman, E. Roland
Harrington, Mary E.
Harris, Abraham
Harris, Albert H.
Harris, Chas. C.
Harris, Geo. A.
Harris, Mrs. Hayden B.
Harris, Ida M.
Harris, Mrs. Victor
Harrison, Archibald
Harrison, L.
Harrison, Philip
Harrison, Sidney
Hart, Mrs. John I.
Hartshorn, Stewart
Hartshorne, Edward C.
Hartshorne, Mrs. James Mott
Hastings, A. Abbott
Hastings, Mrs. Evertsen
Hastings, Thomas
Hatch, Edward, Jr.
Hatch, Mrs. Harold Ames
Hatcher, Arthur B.
Hathaway, Charles
Hathaway, Walter T.
Havemeyer, F. C.
Havemeyer, H. O.
Havemeyer, John F.
Havemeyer, T. A.
Haven, Mrs. G. G.
Haven, J. Woodward
Hawes, W. Gerald
Hawk, Mrs. William Samuel
Hawkes, Eva
Hawkes, Mrs. Forbes
Hawkes, George Walter
Hawkes, Mrs. Morris
Hawley, Mrs. Henry E.
Hawley, Samuel B.
Hay, Clarence L.
Hayden, Warren S.
Hayes, Carroll
Hayes, Dr. Wm. Van Valzah
Haynes, Miss Mary E. P.
Haynes, W. deF.
Hays, David S.
Hayward, J. B.
Hazard, Mrs. R. G.
Hazen, George H.
Heck, George C.
Heckscher, Mrs. August
Heckscher, Mrs. G. Maurice
Hedges, Job E.
Hegeman, Albert Clarence
Heide, Henry
Heide, Henry, Jr.
Heide, Herman L.
Heide, William F.
Heilner, Julius
Heiman, Dr. Jacob
Heine, J. F.
Heineman, Bernard
Heinsheimer, Alfred M.
Heisenberg, Karl
Heller, Abraham A.
Heller, Samuel
Hellman, Edgar A.
Hellman, Henry
Hellman, Milo, D.D.S.
Helme, Mrs. Geo. A.
Helmer, Phoebe A.
Hemenway, Thomas
Henderson, Mrs. E. C.

Hendrick,
Josephine Pomeroy
Hendricks, Mrs. Edgar
Hendricks, Harmon W.
Henry, F. A.
Henry, Miss H. Maud
Henry, Nelson H.
Henry, Philip W.
Herb, Mrs. Elizabeth
Hermes, Frank J.
Hernsheim, Joseph
Hernstadt, William L.
Heroy, James H.
Heroy, W. W.
Herreshoff, Mrs. E. D. Lee
Herrick, Harold
Herrick, Newbold L.
Herrick, Mrs. W. W.
Herrman, Mrs. Henry S.
Herrmann, Charles E.
Hershey, Andrew H
Herty, Chas. H.
Herz, Fred. W.
Herzog, Max
Herzog, Paul M.
Herzog, Samuel A.
Hess, Dr. Alfred F.
Hess, Simon
Hess, Victor R.
Hetzler, Theo.
Hewitt, Mrs. E. R.
Hewitt, Mrs. Lucy W.
Hewlett, Louis
Hewlett, Walter Jones
Heydt, Charles E.
Heydt, Herman A.
Heymann, Albert
Heymann, Charles E.
Heymann, Everett B.
Heymann, Seymour E.
Hicks, John M. W.
Higgins, Arthur G.
Higgins, R. H.
Higgins, William Valentine
Higginson, F. L.
Higginson, Rear-Admiral
Francis J., U. S. N.
Hilborn, Walter S.
Hilder, Moritz
Hill, Robert Carmer
Hillhouse, C. B.
Hilyard, George D.
Hindley, Chas. T.
Hine, Francis L.
Hine, Lyman N.
Hine, Thomas A.
Hines, Walker D.
Hird, Miss Mary E.
Hird, Mrs. Samuel
Hirsch, Chas. S.
Hirsch, Mrs. H.
Hirsch, Leo H.
Hirsch, Morris J.
Hirsch, Mrs. Walter A.
Hirschberg, M. H.
Hirschhorn, Fred
Hirschland, F. H.
Hirschman, Mrs. Jesse
Hirshon, Mrs. Charles
Hoagland, Mrs. Joseph C.
Hoch, Herman
Hochschild, Berthold
Hochschild, Harold K.
Hodell, Chas. W.
Hodenpyl, Annie P.
Hodenpyl, Anton G.
Hodenpyl, Mrs. Eugene
Hodgdon, Frederick C.
Hodges, Geo. W.
Hoe, Geo. E.
Hoe, Richard M.
Hoe, Mrs. Robert
Hoffman, Charles L.
Hoffman, Charles W.
Hoffman, F. B.
Hoffman, F. Burrall, Jr.
Hoffman, Harry L.
Hoffman, Joseph E.
Hogan, Mrs. Jefferson
Hoggson, W. J.
Holbrook, Mrs. Edward
Holden, Dean Hawley
Holden, Mrs. Edwin B.
Holden, Laurence C.
Holland, Edward Thorne
Hollenback, Miss Amelia B.
Hollingshead,
Rev. Geo. G., D.D.
Hollister, Frank C., M.D.
Hollister, Granger A.
Holt, George C.
Holt, Henry
Holt, L. Emmett, M.D.
Holt, R. S.
Holter, Mrs. E. O.
Holzmaister, L. V.
Holzman, A.
Holzman, Elkan
Homan, B. H.
Hooker, Mrs. Elon H.
Hooker, Mrs. Ransom S.
Hoole, C. H.
Hope, Walter E.
Hopkins, A. A.
Hopkins, Miss Augusta D.
Hopkins, Mrs. Henry
Hopkinson, Ernest
Hoppin, G. Beekman
Hoppin, Mrs. W. W., Jr.
Horch, Louis L.
Hord, John H.
Horne, Hon. W. E., M.P.
Horowitz, Dr. Philip
Horr, A. R.
Horr, L. Wm.
Horvitz, Harry
Hoskier, H. C.
Hoskins-Miner,
Miss Charlotte
Houghton, Clement S.
House, Edward M.
House, Miss Florence E.
House, Frederick B.
Housman, Clarence J.
Hovet, Henry A.
Howard, Eloise
Howell, M. D.
Howell, Thomas A.
Howells, Mrs. John
Howes, Mrs. Reuben
Howland, Silas W.
Howson, Mrs. Roger S.
Hoyer, F.

Hoyt, Elizabeth S.
Hoyt, Francis S.
Hoyt, Geo. H.
Hoyt, Geo. S.
Hoyt, Gerald L.
Hoyt, Mrs. John Sherman
Hoyt, Miss Virginia Scott
Hubbard, Louis B.
Huber, Mrs. J. M.
Huddleston, Carrol H.
Hudson, George H.
Hudson, Marjorie V. L.
Huffman, Dr. Otto V.
Hughes, Charles E., Jr.
Hughes, Percy
Huidekoper, Edgar
Hull, Mrs. A. G.
Hull, Miss Elizabeth A.
Hulswit, Frank T.
Humphrey, Martha K.
Humphreys, Fredric E.
Humphreys, F. W.
Humphreys, Mrs. Geo. H.
Hunt, Henry T.
Hunt, Seth B.
Hunt, Mrs. Thomas
Hunt, W. Roger
Hunter, Arthur M.
Hunter, George Leland
Hunter, Jeremiah
Hunter, Stephen C.
Huntington, F. J.
Huntington, Mrs. Francis C.
Huntington, Hester Gibson
Huntington, Mrs. R. P.
Hüpfel, Adolph G.
Hüpfel, Chris. G.
Hüpfel, J. Chr. G.
Hurd, Dr. Lee M.
Hurd, R. M.
Hurlbut, Miss Margaret C.
Huron, George B.
Hurst, Mrs. Albert Edward
Hutcheson, Wm. A.
Hutchins, A. S.
Hutchins, Mrs. R. G.
Hutchinson, Cary T.
Hutzler, George H.
Huyler, C. D.
Huyler, David
Huyler, Frank DeK.
Hyatt, A. M.
Hyde, A. Fillmore
Hyde, Mrs. Augustus L.
Hyde, Mrs. Clarence M.
Hyde, Courtney
Hyde, E. Francis
Hyde, Miss Hazel
Hyde, Seymour Worrall
Hyman, Abraham, M.D.

Imboden, Harry M.
Ingalls, Mrs. F. Abbott
Ingalls, Fay
Ingersoll, Jonathan
Ingersoll, Robt. H.
Ingraham, Geo. L.
Ingraham, Mrs. George
Ingraham, Mrs. Phoenix
Inman, John H.
Innes, O. G.
Inslee, Edwin W.
Irwin, William Fletcher
Isaacs, Stanley M.
Iselin, C. Oliver
Iselin, Mrs. C. Oliver
Iselin, Miss Georgine
Iselin, Lewis
Iselin, Mrs. William E.
Iselin, Wm. E.
Isham, William B.
Isham, Mrs. Wm. B.

Jackson, Mrs. C. D.
Jackson, Francis DeMilt
Jackson, Mrs. Frederic W.
Jackson, Frederick W.
Jackson, Mrs. Percy
Jackson, Robert A.
Jackson, Samuel
Jacobs, E. Louis
Jacobus, John S.
Jacoby, George W.
Jaeckel, Albert F.
Jaffray, Robert
James, Ellerton
James, Henry
James, Mrs. Walter B.
James, Mrs. Wortham
Jameson, Mrs. Edwin C.
Jamison, Dr. A. B.
Jansen, Ed.
Janvrin, Edmund R. P., M.D.
Jaretzki, Mrs. Alfred
Jarvie, James N.
Jefferson, John Percival
Jenkins, A. C.
Jenkins, Alfred W.
Jenks, Mrs. Robert I.
Jennings, Miss A. B.
Jennings, Percy H.
Jennings, Mrs. Percy Hall
Jennings, Mrs. Philip B.
Jennings, Robt. E.
Jennings, Walter
Jephson, George S.
Jermain, Miss M. C.
Jesup, Richard M.
Jetter, J. Edward
Jewett, George L.
(In Memoriam)
Jobe, Miss Mary L.
John, Robert
Johnson, Mrs. Bradish
Johnson, Evangeline B.
Johnson, F. Elmer, M.D.
Johnson, Gilbert H.
Johnson, Leeds
Johnson, Mrs. S. Pitney
Johnson, Thos. W.
Johnson, Wilbur S.
Johnson, Mrs. Wm. Templeton
Johnston, J. Herbert
Johnston, Mrs. J. Herbert
Johnston, Dr. Marius E.
Jonas, Ralph
Jones, Mrs. Adam Leroy
Jones, A. H.
Jones, Arthur W., Jr.,
Jones, Bassett
Jones, Mrs. Cadwalader

Jones, De Witt Clinton
Jones, Mrs. Dwight A.
Jones, Edwin Artimus
Jones, Francis C.
Jones, Frank Morton
Jones, H. Bolton
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Jones, William B.
Jones, William R.
Jones, W. Strother
Joseph, Mrs. John A., Jr.
Josephthal, Louis M.
Judson, William D.
Julian, R. L.
Jungbluth, Karl

Kachurin, Philip
Kahle, Mrs. Julie
Kahn, Arthur J.
Kahn, Otto
Kahn, Otto H.
Kahn, Dr. Robert Johnstone
Kahn, Walter N.
Kahrs, J. Henry
Kalbfleisch, Franklin H.
Kane, Mrs. De Lancey
Kane, Miss Sybil Kent
Kaplan, Saml. M.
Karelsen, Frank E., Jr.
Karsch, Bernard
Karsch, Oswald J.
Kaskel, Max
Kassing, Edwin S.
Kastor, Adolph
Kathan, Reid A.
Kaufmann, Charles B.
Kaufmann, Ernst B.
Kaufmann, H. M.
Kaufmann, Irma H.
Kaufmann, Julius
Kaufmann, Max
Kaufmann, Mrs. M.
Kaupe, Albert G.
Kayser, Henry A.
Keagey, Esther
Kean, Mrs. Hamilton Fish
Kean, John
Kean, Robert Winthrop
Keasbey, Frederick W.
Keech, Mrs. Frank Browne
Keeler, Mrs. Charles Bradley
Keen, Barton L.
Keene, Charles S.
Keep, C. H.
Keigwin, Rev. Dr. A. Edwin
Keith, Henry M.
Keith, Minor C.
Keith, Mrs. Minor C.
Kelchner, William W.
Keller, Charles G.
Keller, Joseph F.
Keller, Morris
Kelley, Augustus W.
Kelley, Cornelius F.
Kelley, Nicholas
Kellogg, Mrs. Frederic R.
Kellogg, L. D.
Kellogg, Mrs. Morris W.
Kellogg, Mrs. R. S.
Kelly, Charles P.
Kemmerer, M. S.
Kemp, Prof. James F.
Kempner, Elias
Kennedy, Dr. Harris
Kennedy, Mrs. H. Van Rensselaer
Kennedy, James J.
Kennedy, Mrs. John S.
Kennerly, M. M.
Kent, Edwin C.
Kent, G. H.
Kenyon, John N.
Keppel, David
Kern, William M.
Kerr, E. Coe
Kerr, John B.
Kerr, John Clapperton
Kerrison, Dr. Philip D.
Kerrison, Mrs. Philip D.
Kessel, Leo, M.D.
Keuffel, W. G.
Keyes, Dr. E. L.
Keyser, Mrs. Samuel
Kibbee, W. B.
Kieger, Emil L.
Killeen, Edward V.
Kilner, S. E.
Kilsheimer, James B., Jr.
Kimball, Mrs. C. W., Jr.
Kimbel, Anthony
Kimbel, Henry
King, Mrs. Edward
King, Herbert T.
King, Miss Isabella C.
King, James Gore
King, Jerome A.
Kingsford, Daniel P.
Kingsford, Miss Margaret S.
Kingsley, W. M.
Kinney, Morris
Kinney, Warren
Kip, Clarence Van S.
Kip, W. Ruloff
Kirby, Cornelia T.
Kirchberger, M.
Kirkpatrick, John
Kissel, Mrs. G. E.
Kissel, W. Thorn
Kitchel, Allan F.
Kittredge, George W.
Kittredge, S. Dana
Klaas, G. P.
Klee, Sigmund
Klein, D. Emil
Klein, Leo M.
Kleinberger, François
Klenke, William H.
Klingenstein, Charles
Klipstein, E. C.
Kloh, Alphonse
Klugman, Julius
Knapp, Edward J.
Knapp, Joseph P.
Knapp, William Jared
Knight, Mrs. J. P., Jr.
Knight, Samuel Howell
Knoblauch, Geo. W.
Knoedler, Roland F.
Knowlton, Eben B.
Koch, Wilhelm
Koch, William T.

Kodjbanoff, Basil G.
Koehler, Robert Portner
Koehn, Walter H.
Koenig, Otto
Kohler, Miss M. E.
Kohlman, Mrs. M. L.
Kohn, Albert M.
Kohn, Emil W.
Kohn, Mrs. Walter T.
Kohns, Lee
Kohnstamm, Lothair S.
Koles, Henry M., M.D.
Konta, Alexander
Kops, Daniel
Kops, Mrs. Max
Korn, Robert
Kosmak, Geo. W., M.D.
Kovacs, Dr. Richard
Krakeur, Arthur F.
Krakeur, Jacques
Krause, Holger E.
Krauser, John F.
Kremer, Mrs. William N.
Kress, Claude W.
Kridel, Alexander H.
Kridel, Mrs. Samuel
Kruttschnitt, Julius
Kudlich, H. C.
Kugelman, Julius G.
Kuhirt, Geo. A.
Kuhn, Arthur K.
Kuhn, August
Kuhn, Edward
Kuhn, Julius
Kuhn, Mrs. Walt
Kursheedt, Roland S.
Kurzman, Charles C.
Kuser, Mrs. Anthony R.
Kuser, John Dryden
Kuttroff, Adolf

Lacombe, E. Henry
Ladd, William Sargent, M.D.
Ladd, W. M.
La Dow, Stanley V.
LaFarge, O. H. P.
Lagai, Dr. G.
Lage, Frederico
Lagemann, C.
Lagowitz, Miss H. L.
Laidlaw, Mrs. George Frederick
Lamarche, Mrs. Henry J.
Lamb, Dr. Albert R.
Lamb, Gilbert D.
Lambelet, Mrs. H.
Lambert, Adrian V. S.
Lambert, Alexander
Lambert, Samuel W.
Lambert, Vitus C.
Lamprecht, Theodore H.
Lancashire, Mrs. J. H.
Lanchner, Dr. S. H.
Landon, Francis G.
Landon, Henry Hutton
Lane, Edward V. Z.
Lane, James Warren
Lane, Melvin
Lane, Wolcott G.
Lange, Gustav, Jr.
Lange, Nancy C.
Langeloth, Mrs. Jacob
Langley, Mrs. William C.
Langmann, Mrs. G.
Langstadter, Aaron
Langzettel, Mrs. Marion B. B.
Lanier, Reginald B.
Lapham, Mrs. John J.
Lapham, Lewis H.
Lapsley, Anna Welsh
Larkin, Mrs. James S.
la Rosa, Carlos, Jr.
Larson, Mrs. Peter
Lathers, Miss Ida
Lathrop, Alanson P.
Lauder, Mrs. Geo., Jr.
Lauer, Edgar J.
Lauscher, Mrs. Ad.
Lauten, Henry G. F.
Lavelle, M. J.
Lawrence, Emlen N.
Lawrence, Miss Margaret
Lawrence, Townsend
Lawrence, W. V.
Lawson, John D.
Lawton, William W.
Layng, Mrs. Jas. D., Jr.
Lea, Charles M.
Leach, Mrs. Henry G.
Leach, Henry Goddard
Leale, Charles A., M.D.
Leary, Mrs. George
Leavitt, Mrs. Charles W.
Leberman, Jacob
Le Blanc, Alfred
Ledoux, Albert R.
Ledyard, Mrs. Lewis Cass
Lee, Mrs. Arthur
Lee, Charles H.
Lee, Charles N.
Lee, Frederic S.
Lee, Ivy L.
Lee, J. W., Jr.
Lee, Dr. Marguerite T.
Lee, Samuel
Leewitz, Adolph
Le Fevre, C. R.
Lefferts, Mrs. Barent
Lefferts, Marshall C.
Legg, George
Leggett, Clinton H.
Lehmaier, James M.
Lehmaier, Mrs. Louis A.
Lehman, Arthur
Lehman, Harold M.
Lehman, I. Howard
Lehman, Irving
Lehner, Ernst, Ph.D.
Leigh, R. Walter
Leland, Mrs. Amory
Lemp, Louis
Leo, Brother
Leon, Henry
Leonori, Charles L.
Lerner, Michael
Lerner, Samuel A.
Le Roy, Mrs. E. A.
LeRoy, Dr. Louis C.
Lester, A. Edward
Lester, George Bacon
Leupp, Wm. H.
Levenson, Edward, D.D.S.

Leventritt, David
Levi, Emil S.
Levi, George
Levi, Philip J.
Levine, Edmund J.
Levison, Benno
Levy, B. E.
Levy, Edgar A.
Levy, Ephraim B
Levy, Louis S.
Levy, Moe
Levy, Willy
Lewengood, Miss Helen Louise
Lewis, Mrs. August
Lewis, Esther J.
Lewis, Mrs. Eugene
Lewis, Mrs. Frederic Elliott
Lewis, Montgomery H.
Lewis, Robert Parker
Lewis, Wm. J., M.D.
Lewisohn, Miss Irene
Lewisohn, Sam A.
Lewisohn, Mrs. Samuel A.
Lexow, Mrs. Allan
Lichtenstein, Oscar R.
Lichtenstein, Mrs. Paul
Lieb, Charles C., M.D.
Lieb, J. W.
Lieber, Dr. Hugo
Liebmann, Mrs. Charles J.
Liebmann, Samuel
Lilienthal, Albert M.
Lilienthal, Dr. Howard
Lilienthal, Jos. L.
Lillibridge, Harrison
Lilly, Mrs. Henry
Limburg, Herbert R.
Lincoln, Mrs. Lowell, Jr.
Lindenmeyr, Fritz
Lindheim, Norvin R.
Lindsay, C. Seton
Lindsey, Edward
Lion, Oscar
Lippincott, Miss M. T.
Lisman, Frederick J.
Lissauer, Robert
Lissberger, Miss Alma L.
Lissberger, Milton L.
Littauer, Lucius N.
Little, Bascom
Littlefield, Chas. W.
Litwin, Mrs. M. A.
Livermore, Mrs. John R.
Livermore, John Walton
Livingston, Miss Alida
Livingston, Miss A. P.
Livingston, Archibald R.
Livingston, Henry S.
Livingston, Philip
Lloyd, Mrs. Francis G.
Lobenstine, Mrs. Wm. C.
Lobsitz, Maurice
Lockwood, Dr. George Roe
Loeb, C. M.
Loeb, J.
Loeb, Mrs. Morris
Loeb, Mrs. William, Jr.
Loewenthal, Mrs. Julius
Loewi, Hugo V.
Long, Louis
Loomis, C. C.
Lord, Daniel M.
Lorenz, Mrs. Leo
Lorsch, Henry
Louderback, Arthur E.
Lounsbery, Richard
Lovett, Robert A.
Lovett, R. S.
Low, Ethelbert I.
Low, Mrs. Seth
Low, William Gilman, Jr.
Lowenstein, Oscar
Lowndes, M. E.
Lowrey, Mrs. G. C. W.
Lowther, Christopher M.
Lowther, George
Ludington, Mrs. Charles H.
Ludlow, Mrs. Banyer
Ludlow, Edwin
Ludlow, Israel
Ludlum, Albert C.
Ludlum, C. A.
Lueder, E. L.
Lueders, George
Lufkin, E. C.
Luke, Adam K.
Luke, David L.
Lummis, Benjamin Rush
Lundquist, Miss G.
Luquer, Lea Shippen
Lusk, Miss Anna H.
Lustbader, Samuel, Jr.
Lybrand, William M.
Lyeth, J. M. R.
Lyman, Grace Greenleaf
Lyman, Robert H.
Lynch, Mrs. John H.
Lynch, W. J. Turner
Lyons, Howard J.

Maas, Gustavus
Maas, Milton A.
Mabon, J. B.
MacCracken, Mrs. George Gore
MacCurdy, George Grant
Macdonald, Rev. Wilson
MacFadden, Carl K.
Macfadden, Robyn
Macfarlane, Wm. M.
MacIver, David Randall
Mack, Arthur C.
Mack, Arthur J.
Mack, Fred. A.
MacKee, Geo. M.
Mackenzie, Kenneth K.
MacMurray, C. F.
Macy, W. Kingsland
Mager, F. Robert
Mainzer, Herbert R.
Mainzer, Robert H.
Mallet-Prevost, S.
Malone, L. Wm.
Manchester, Percival
Mandell, K.
Mandlebaum, Dr. F. S.
Manges, Dr. Morris
Mannes, David
Mansfield, Howard
Mantle, J. G. C.
Manville, H. Estelle
Mapes, Eugene E.
Marble, William A.

Marbury, Miss Elisabeth
Marckwald, A. H.
Marcus, B. K.
Marcus, Samuel
Marcuse, Alexander J.
Marcuse, Bernhard
Markle, John
Markle, Mrs. John
Marks, Maurice
Marsh, Charles Capron
Marshall, Charles A.
Marshall, Charles C.
Marston, Edgar J.
Marston, Edgar L.
Martin, Bradley
Martin, Robert W.
Martin, Thomas W., M.D.
Martin, Walton, M.D.
Martin, W. M.
Marvin, Langdon Parker
Masback, Robert J.
Mason, Miss Fanny P.
Mason, Mrs. George Grant
Mason, M. D.
Massey, Mrs. George
Massey, Miss Harriet F.
Masters, Francis R.
Masters, Sarah W.
Mastin, Mrs. J. Edward
Mather, Samuel
Mathesius, Fredk., Jr.
Matheson, Wm. J.
Mathews, Dr. Frank S.
Mathewson, Charles E.
Maxwell, George T.
Maxwell, Henry L.
Maxwell, Howard W.
May, Sir George
May, George O.
Mayer, Joseph L. B.
Mayer, Josh. W.
Mayer, Dr. Leo
Mayer, M. R.
Mayer, Nelson B.
Mayer, Mrs. R. A. de Lima
Mayo, Mrs. George H.
McAdoo, William
McAfee, John Knox
McAleenan, Joseph A.
McAllister, Robert Edgar
McAlpin, Dr. D. H.
McAlpin, Kenneth R., M.D.
McBride, Mrs. Herbert
McBride, Thomas J.
McBride, Wm. M.
McCabe, T. T.
McCagg, Louis B.
McCall, John C.
McCarthy, J. M.
McClure, Samuel G.
McCook, Philip J.
McCormick, Miss Parker
McCourt, James
McCrea, W. S.
McCreery, Henry Forbes
McCulloh, Charles S.
McCulloh, James S.
McCurdy, Robert H.
McCutchen, Chas. W.
McDonald, Ellice
McDuffie, Marshall William
McElheny, Victor K., Jr.
McFadden, Mrs. W. A.
McGee, Wm. H.
McGinley, J. R.
McGraw, Stanley D.
McGregor, Mrs. R. G.
McGregor, Robert
McIlhenny, E. A.
McIlvaine, Tompkins
McIntyre, John G.
McKay, R. G.
McKelvey, Charles W.
McKelvey, J. J.
McKelvy, Robert
McKenney, Henry P.
McKeown, Matilda J.
McKernon, Dr. Jas. F.
McKim, John A.
McKim, Le Roy
McKinley, Lindsay P.
McKnight, Charles
McKune, Clarence S.
McLain, F. J.
McLane, Mrs. Allan, Jr.
McLane, Miss Elizabeth
McLane, Miss Sophie Hoffman
McLane, Thomas S.
McLaren, W. A.
McLean, John Emery
McMahon, Rev. Joseph H.
McManus, Edward F.
McMillan, Francis W.
McNair, William
McNall, Robert H.
McNaugher, David W.
McNeir, George
McNeir, Thomas S.
McRoberts, Samuel
McWilliams, Mrs. Josephine
Mead, Carl A.
Mead, Charles N.
Mead, Herbert, Jr.
Meeker, Henry E.
Meeks, Howard V.
Mehl, Henry
Meigs, Mrs. Ferris J.
Meinhard, Morton H.
Melcher, John S.
Mellen, Chase
Meloy, Andrew D.
Mendes, Henry E.
Menke, William
Mergentime, Mrs. Charles
Merle-Smith, Van S.
Merle-Smith, Mrs. Wilton
Merriam, Edwin W.
Merriam, Henry F.
Merrihew, George W.
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Meyer, Max

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Stern, Isaac
Stern, Leopold
Stern, Ludwig
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Stern, Simon T.
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Weeks, Rufus W.
Weeks, Warren B. P.
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Weighart, Joseph B.
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Weil, Edmond
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Weil, Dr. Isaac
Weil, Leon
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Weinberg, Charles
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Weinberger, Mrs. Jacques
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Weir, William J.
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Weiss, Mrs. Samuel W.
Weisse, Faneuil Suydam
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Wells, Oliver J.
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Whitney, Casper
Whitney, Edward F.
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Whitney, Mrs. Payne
Whitney, Richard
Whitney, Travis H.
Whitney, William
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Wiemann, Albert B.
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Wilcox, C. H.
Wilcox, Dr. Herbert B.
Wilcox, T. Ferdinand
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Wile, Irwin
Wile, Oscar J.
Wiley, J. S.
Wiley, Louis
Wilkie, John L.
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Willets, Miss Maria
Williams, Alex. S.
Williams, Arthur
Williams, Ellis D.

Williams, Harrison
Williams, Mrs. Hutton
Williams, James D.
Williams, Laidlaw
Williams, Lewis Blair
Williams, Mrs. Percy H.
Williams, Mrs. Richard H.
Williams, Roger B., Jr.
Williams, Mrs. Timothy S.
Williams, Mrs. T. R.
Williams, William H.
Williamson, Mrs. G. DeWitt
Willis, Reginald S.
Willis, W. P.
Williston, James R.
Willstatter, A.
Wilmerding, Lucius
Wilmerding, Mrs. Lucius K.
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Wilson, John E., M.D.
Wilson, M. Orme
Wilson, Orme, Jr.
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Wilson, Walter H.
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Wimpfheimer, Chas. A.
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Wing, Morgan
Wingate, Geo. W.
Winkelman, L. L.
Winslow, Rear Admiral C. McR., U.S.N.
Winston, Owen
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Wisner, Percy
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Zimmermann, Charles
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Zinsser, William H.
Zoller, Charles
Zuckerman, Henry

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McCaskey, Hiram Dryer
McEwen, Katherine
McFarland, G. W.
McGraw, Dr. Arthur B.
McGregor, Tracy W.
McKelvie, Martha Groves
McKenna, Mrs.
Reginald J. P.
McKinney, Marion
McLachlin, Dan.
McLean, Mrs. W. E.
McMath, F. C.
McMath, Robert R.
McMullen, Arthur, III
McNair, Edward E.
McNairy, Amos B.
Mead, Henry O.
Meckes, Edgar A.
Melvin, Hattie E.
Memminger, C. G.
Mengel, J. Hain
Mercer, William R.
Merriam, A. Ware
Merriam, Judge DeWitt H.
Merriam, Mrs. Walter H.
Merrill, Mrs. Charles W.
Merrill, Mrs. J. F.
Merriman, H. M., Jr.
Mershon, Wm. B.
Metcalf, Irving W.
Metcalf, John Brockway
Middleton, R. C.
Mieth, George W.
Miller, E. A.
Miller, Mrs. Galbraith, Jr.
Miller, John H.
Miller, Louise Klein
Miller, M. Annie
Miller, Paul C.
Miller, Paul H.
Miller, Shirley P.
Milligan, Dr. Robert
Milliken, Arthur N.
Millis, John
Mills, Mrs. Enos
Mills, Frank S.
Mills, Wilson W.
Mills, Wm. C.
Miner, W. H.
Mitchell, Charles D.
Mitchell, Mrs. Emma M.
Mitchell, Walter S.
Moffett, F. L.
Molera, E. J.
Molineux,
Mrs. Elizabeth M.
Molloy, D. M., M.D.
Monroe, S. B.
Monson, Mrs. Frances E.
Montgomery, Edmund B., M.D.
Montgomery, E. W.
Montgomery, Leila Y. Post
Moodie, Roy L.
Moody, Dr. Robert Orton
Mooers, C. A.
Moore, Chas. C.
Moore, J. Merrick
Moore, Raymond C.
Moorehead, Dr. Frederick B.
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Morgan, F. Corlies
Morgan, S. Rowland
Morris, F. W., Jr.
Morris, Dr. H. H.
Morris, Miss Lydia T.
Morris, W. R.
Morrison, W. B.
Morrow, Hon. Wm. W.
Morse, I. H.
Morss, Noel
Morton, Robert A.
Moseley, Edwin Lincoln
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Moulton, Willis Bryant, M.D.
Mowrey, J. Hase
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Mullen, Edward G.
Mullen, N. E.
Murayama, Hanshime
Murphy, W. D.
Murray, Marshall L.
Musgrave, M. E.
Muttkowski, R. A.
Myers, Benjamin F.
Myers, Edward Studley
Myers, Paul N.

Nachtrieb, Henry F.
Nagel, Charles
Narbonne, Gardner H.
Nebraska Wesleyan University Library
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Needham, James G.
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Neill, Chas. P.
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Newberry, Leslie W.
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Newcomb, Ruth W.
Newcomb, Dr. Walter E.
Newcomb, William W.
Newman, Jerome
Newman, Dr. R. A.
Nichols, Major Henry J., M.C., U.S.A.
Nichols, Dr. Susan P.
Nininger, Harvey Harlow
Noack, Harry R.
Noble, Albert E.
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Northrop, Edwin C.
Norton, Arthur H.
Norton, Dr. C. E.
Norton, J. Pease
Noyes, Winthrop G.

Nunnemacher, Henry J.
Nyeboe, M. Ib

Oakes, Prescott
Odhner, Prof. Dr. T.
O'Donel, C. M.
O'Donoghue,
Prof. Chas. H.
O'Harra, C. C.
Ohlmann, Chas.
Okey, Catherine Warner
Olcovich, Benj.
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Oliver, Dr. J. C.
Oliver, John Milton
Oliver, Nelson E., M.D.
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Ostrander, Bert
Ostrom, Mrs. Homer Irvin
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Owre, Oscar, M.D.

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Palmer, W. B.
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Parke, W. G.
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Parker, George A.
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Parker, Gordon
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Parrish, M. L.
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Partridge, Stanley
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Patten, Frank Chauncy
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Patterson, R. M.
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Pentz, Wm. R.
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Peskind, Sol.
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Peterson, Dr. Elmer G.
Peterson, William
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Purdy, F. A.
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Reavis, Tolbert F.

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Redfield, Elisa W.
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Redfield, Henry W.
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Reed, H. D.
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Regar, H. Severn
Rehn, James A. G.
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Renwick, Mrs. William
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Rice, Myron A.
Rice, Prof. Wm. North
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Richardson, Russell, M.D.
Richardson, W. D.
Richardson, W. E.
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Riggs, Mrs. Austen F.
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Robinson, Mrs. Edward S.
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Rockwell, I. E.
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Roehlke, A. F.
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Rogers, J. M.
Rogers, Rev. Wallace
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Russell, L. S.
Rust, C. H.

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Sanchez, Louis A.
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Sansom, Paul
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Sarton, George, D.Sc.
Sartori, Mrs. J. F.
Sawyer, A. R.
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Schatz, Fredk.
Scheffel, Earl Read
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Schively, Mary Alice, M.D.
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Schmidt, Hubert
Schmidt, H. W.
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Schmidt, Margaret Jane
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Schuneman, Charles
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Scott, J. T.
Scott, Dr. S. B.
Scott, Wm. G.
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Scranton, G. G.
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Sears, Frederick E.
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Sellards, Jas. A., Jr.
Selvidge, W. A.
Sengstak, Theo.
Sergi, Giuseppe
Sessums, Mrs. Davis
Setchell, W. A.
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Shaw, Prof. William T.
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Shimer, Hervey Woodburn
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Mrs. Caroline B.
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Shultz, W. O.
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Simonson, Roger A.
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Simpson, W. J.
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Sisson, Willard C.
Sjöström, Ivar L.
Skinner, Dr. Henry
Slater, H. N.
Sleeth, R. L., Jr.
Sloan, Earle
Slocum, George, M.D.
Slocum, William H.
Slonaker, Dr. J. Rollin
Smale, Alverda K.
Smith, Adrian E.
Smith, A. Marguerite
Smith, Benjamin F.
Smith, Charles D., M.D.
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Smith, Dudley W.
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Smith, Lansing F.
Smith, Roy H.
Smith, Samuel W., Jr.
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Smyth, E. Graywood
Snader, Craige McComb
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Snyder, Harry R., Jr.
Snyder, L. L.
Snyder, Mrs. Z. X.
Sollas, Prof. W. J., D.Sc., F.R.S.
Somers, L. H.
Southard, Geo. F.
Southwick, Mrs. Joseph
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Spaulding, Rolland H.
Spaulding, Samuel S.
Spearing, J. Zach.
Speer, S. B. Dick
Spelman, H. B.
Spencer, Elmer G.
Spencer, G. J.
Spencer, Henry Benning
Spencer, Robert L.
Sperry, George B.
Spiller, Caryl
Spofford, Carl L.
Sprague, A. A., 2d
Sproul, Miss Cleona C.
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Stage, Charles W.
Stanley, Mrs. D. S.
Starks, Edwin C.
Starr, Charles S.
Stauffer, Clinton R.
Steiner, Bernard C.
Steinmech, J. H.
Stephan, John F.
Stephens, A. L.
Sterling, P. B.
Sternberg, Charles H.
Sternberg, Charles M.
Stevens, F. Paul
Stevens, Mrs. Frederick Waeir
Stevens, Henry G.
Stevens, James C.
Stevens, J. P.
Stevenson, Paul H., M.D.
Stewart, Col. Cecil
Stewart, Colin C., Ph.D.
Stidham, Harrison
Stillman, Dr. Charles C.
Stoddard, Herbert L.
Stoddard, Mrs. Jennie G.
Stoddard, J. I.
Stone, Miss Elisabeth W.
Stone, Frank
Stone, Harry C.
Stone, Harry H., Jr.
Stone, Julius F.
Storrs, Lucius S.
Stott, Louis N.
Stow, Mrs. Vanderlynn
Stowe, Franklin D. L.
Straley, Prof. H. W., III
Streaker, George H.
Strealy, M. W., D.D.S.
Streeter, Roy R.
Streever, F. S.
Stuart, C. H.
Stuart, Geo. H., 3d
Studley, J. Edward
Sturges, Rush
Sturgis, S. Warren
Sturtevant, Major Charles G.
Sudduth, W. H.
Sugden, Arthur W.
Suman, John R.
Swabey, E. C.
Swain, W. Moseley
Swan, Mrs. J. Andrews
Swarth, Harry S.
Swarthmore College Library
Swartz, Mrs. Christian
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Sweet, Henry N.
Sweetser, Albert R.
Swenson, Dr. Carl G.
Swezey, Mrs. F. A.
Swift, Carleton B.
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Synnott, Thos. W.

Taft, Elihu B.
Tandy, Frank N.
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Taylor, A. Robena
Taylor, Mrs. E. A.

Taylor, Hollinshead N.
Taylor, Marcia I.
Taylor, Warner
Tennent, David H.
Terrell, Clyde B.
Terry, Jay
Tester, Allen C.
Tetrault, P. A.
Tevis, Lloyd
Thacher, Arthur
Thayer, Frederick C., M.D.
Thayer, George A.
Thistlethwaite, Wm. J.
Thomas, Abram Owen
Thomas, Elmslie Timbs
Thomas, L. Alvin
Thomas, Samuel Hinds
Thompson, A. W.
Thompson, John A.
Thompson, John W.
Thorp, Joseph G.
Thurston, Emory W.
Thysell, John C.
Todd, James
Todd, Dr. Joe H.
Todd, Dr. T. Wingate
Tolman, E. E.
Tovar, Dr. Daniel A.
Townsend, J. Barton
Townsend, Wm. S.
Townshend, Henry H.
Trotter, Wm. Henry
Tryon, John W.
Tschudy, Earl H.
Tucker, Chas. Edward
Tullock, H. S.
Tunks, Rev. Walter F.
Turman, A. E.
Turnbull, Mrs. Sarah A.
Turner, Miss Helen G.
Tuttle, Carlisle B.
Tuveson, Nels A.
Tyrode, Maurice V., M.D.
Tyson, Carroll S., Jr.

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Uren, Edw. C.
Urmston, J. K.
Utter, Henry E., M.D.

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Valentine, Mrs. Grace E.
Valentine, Colonel Henry Lee
Valentine, Miss Myra
Vandergrift, Samuel Henry
Van der Laan, Dr. J.
Van Devanter, Willis
Van Duzer, H. B.
Van Epps, John Sminck
van Houten, J.
van Oort, Prof. Dr. E. D.
Van Orden, William
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van Santvoord, Seymour
Van Wart, R. M.
Van Winkle, Dr. J. O.
Vaughan, Samuel
Vaughn, R. G.
Vermillion, Mary S.
Verrill, A. E.
Versluys, Prof. Dr. J.
Vestal, A. G.
Vibert, Charles W.
Vickery, Mrs. H. F.
Voigtlander, George
von Geldern, Chas. E., M.D.
Vonsen, M.

Wadsworth, Samuel
Wadsworth, Samuel F., M.D.V.
Wagner, Samuel Tobias
Waldo, Edward H.
Waldron, L. R.
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Walker, Sir Edmund
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Walker, Harrington E.
Walker, Hiram H.
Walker, Miss Lydia M.
Walker, Thaddeus
Wall, Ashbel T.
Wallace, Mrs. Andrew B.
Wallace, Herbert I.
Wallace, Lindsay H.
Wallace, W. W.
Wallden, Mrs. Hannah
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Walters, L. L.
Walton, W. J.
Wampler, F. C.
Ward, Jay Quincy
Ward, Mrs. William T.
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Warren, Dr. E. T.
Warren, George C.
Washburne, A. C.
Watson, Thomas A.
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Webb, Walter F.
Weber, Louis
Weber, Prof. Max
Webster, Dr. Ralph W.
Weed, Rt. Rev. Edwin G.
Weed, Lewis H.
Wehrle, Augustine T.
Weis, Dr. Joseph D.
Weis, Samuel W.
Weiss, Albert P.
Welch, Chas. W.
Welch, H. K. W.
Welch, Louis C.
Weld, Elizabeth F.
Weller, Stuart
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Welsh, Robert F.
Weniger, Dr. Wanda
Wernigk, Dr. R.
West, Miss Edith
West, Dr. Frederic Beall
Westbrook, Stillman F.
Westcott, W. R.
Westervelt, W. D.
Wetherill, Richard

Wetherill, Richard B., M.D.
Wetherill, Wm. Chattin
Wetherill, William Henry
Whalley, Miss Muriel E.
Wheeler, Caroline M.
Wheeler, Charles
Wheeler, H. C.
Wheeler, Mrs. Samuel H.
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Wheelwright, Wm. D.
Whelan, Ralph
Whelden, Roy M.
Wheless, Wesley E.
Wherry, Wm. B.
Whipple, B. F.
Whitaker, F. B.
Whitall, F. D.
Whitall, Lawrence W.
Whitby, Eddy
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White, Andrew S.
White, Dr. Charles J.
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White, Dr. Joseph A.
White, Philip T.
White, Ralston
White, Wm. Henry
Whiting, Dr. Henry A.
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Whitman, Hendricks H.
Whitnall, Harold O.
Whitney, David C.
Whitney, Mrs. Harwood Otis
Whitney, Oscar C.
Whitney, Willis R.
Whittemore, Harris
Whittle, W. O.
Wickstrom, Miss Ruth
Wiest, Carrel
Wightman, Henry Nicoll
Wilberding, J. B.
Wilcox, Edwin J.
Wilcox, Walter D.
Wilder, Harris H.
Will, George F.
Will, Louis
Willard, Dr. Bradford
Willard, Frank C.
Willcox, Prof. Mary A.
Willetts, Ernest W., M.D.
Willey, Arthur
Williams, Mrs. C. S.
Williams, David W.
Williams, Prof. Edward H., Jr.
Williams, Ellison A
Williams, Henry P.
Williams, Ira A.
Williams, Ralph
Williams, Richard E.
Williams, Roger B.
Williams, S. P., Jr.
Williamson, E. B.
Williard, Lester R.
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Willits, Dr. J. Pearson
Willock, J. Scott
Wilson, Charles Branch
Wilson, H. E.
Wilson, Dr. J. Howard
Wilson, Rev. Robert, D.D.
Wilson, Robert, Jr., M.D.
Windle, Ernest
Winn, Herbert J.
Winne, Dr. Charles K., Jr.
Winston, William O.
Winter, Dwight
Wislocki, George B., M.D.
Witcher, William
Wolcott, E. R.
Wolverton, B. C.
Wood, Walter
Woodbury, Lieut.-Col. Frank Thomas, U.S.A.
Woodruff, Mrs. Charles Albert
Woods, Chas. M.
Woodward, Lemuel Fox
Woodwell, John
Woolley, Paul G.
Woolsey, George W
Worden, Clinton E.
Wright, A. B.
Wright, Albert Hazen
Wright, Mrs. Eva Edgar
Wright, Gifford K.
Wright, John S.
Wright, Robert C.
Wurlitzer, Rembert
Wyer, Samuel S.
Wynn, Henry G.

Yarnall, Charlton
Yoder, I. T.
York, George W.
Yost, John B.
Young, Stanley P.

Zapffe, Carl
Zimmerman, John B.
Zinsmeister, Mrs. Elsie Ahrens

INCORPORATION, CHARTER AND CONTRACT

AN ACT
TO INCORPORATE THE
AMERICAN MUSEUM OF NATURAL HISTORY

Passed April 6, 1869

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. John David Wolfe, Robert Colgate, Benjamin H. Field, Robert L. Stuart, Adrian Iselin, Benjamin B. Sherman, William A. Haines, Theodore Roosevelt, Howard Potter, William T. Blodgett, Morris K. Jesup, D. Jackson Steward, J. Pierpont Morgan, A. G. P. Dodge, Chas. A. Dana, Joseph H. Choate and Henry Parish, and such persons as may hereafter become members of the Corporation hereby created, are hereby created a body corporate, by the name of "The American Museum of Natural History," to be located in the City of New York, for the purpose of establishing and maintaining in said city a Museum and Library of Natural History; of encouraging and developing the study of Natural Science; of advancing the general knowledge of kindred subjects, and to that end of furnishing popular instruction.*

SEC. 2. Said Corporation shall have power to make and adopt a Constitution and By-Laws, and to make rules and regulations for the admission, suspension and expulsion of its members, and their government, the number and election of its officers, and to define their duties, and for the safe keeping of its property, and, from time to time, to alter and modify such Constitution, By-Laws, Rules and Regulations. Until an election shall be held pursuant to such Constitution and By-Laws, the persons named in the first section of this Act shall be, and are hereby declared to be, the Trustees and Managers of said Corporation and its property.

SEC. 3. Said Corporation may take and hold by gift, devise, bequest, purchase or lease, either absolutely or in trust, for any purpose comprised in the objects of the Corporation, any real or personal estate, necessary or proper for the purposes of its incorporation.†

SEC. 4. Said Corporation shall possess the general powers, and be subject to the restrictions and liabilities, prescribed in the Third Title of the Eighteenth Chapter of the First Part of the Revised Statutes, and shall be and be classed as an educational corporation.*

SEC. 5. This Act shall take effect immediately.

STATE OF NEW YORK, }
OFFICE OF THE SECRETARY OF STATE. } ss.:

I have compared the preceding with the original law on file in this office, and do hereby certify that the same is a correct transcript therefrom, and of the whole of said original law.

[L. S.] Given under my hand and seal of Office at the City of Albany this fourteenth day of April, in the year one thousand eight hundred and sixty-nine.

D. WILLERS, JR., *Deputy Secretary of State.*

† Section 3. As amended by Chapter 303, Laws of 1898, of the State of New York, entitled "An Act to amend chapter one hundred and nineteen, laws of eighteen hundred and sixty-nine, entitled 'An Act to incorporate the American Museum of Natural History,' relative to its charter."

* Sections 1 and 4. As amended by Chapter 162 of the Laws of 1909, entitled "An Act to amend chapter one hundred and nineteen of the laws of eighteen hundred and sixty-nine, entitled 'An Act to incorporate the American Museum of Natural History,' in relation to classifying said corporation and modifying its corporate purposes."

BOND ISSUES FOR THE CONSTRUCTION AND EQUIPMENT OF THE AMERICAN MUSEUM OF NATURAL HISTORY

LEGAL ENACTMENTS OF 1921

BY THE LEGISLATURE

CHAPTER 618

AN ACT to amend the Greater New York Charter, in relation to use of the proceeds of bond issues.

Became a law May 6, 1921, with the approval of the Governor.

ACCEPTED BY THE CITY

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Subdivision nine of section one hundred and sixty-nine of the Greater New York charter, as re-enacted by chapter four hundred and sixty-six of the laws of nineteen hundred and one, and last amended by chapter nine hundred and sixty of the laws of nineteen hundred and twenty, is hereby amended to read as follows:

9. *****

The city of New York shall not, except as hereinafter provided, expend any part of the proceeds of sales of corporate stock or serial bonds for other than revenue-producing improvements, except for the erection of school buildings and the acquisition of sites therefor and the acquisition of houses for school purposes, and except for the erection and equipment of the buildings of the American Museum of Natural History which by charter and contract with the city is an adjunct of the educational system of the city, ****

§ 2. This act shall take effect immediately.

STATE OF NEW YORK }
OFFICE OF THE SECRETARY OF STATE } ss:

I have compared the preceding with the original law on file in this office, and do hereby certify that the same is a correct transcript therefrom, and of the whole of said original law.

Given under my hand and the seal of office of the Secretary of State, at the City of Albany, this twenty-fifth day of May in the year one thousand nine hundred and twenty-one.

[SEAL]

C. W. TAFT, *Second Deputy Secretary of State.*

CONTRACT
WITH THE DEPARTMENT OF PUBLIC PARKS
FOR THE OCCUPATION OF THE NEW BUILDING

THIS AGREEMENT, made and concluded on the twenty-second day of December, in the year one thousand eight hundred and seventy-seven, between the DEPARTMENT OF PUBLIC PARKS OF THE CITY OF NEW YORK, the party of the first part, and the AMERICAN MUSEUM OF NATURAL HISTORY, party of the second part, witnesseth:

Whereas, by an Act of the Legislature of the State of New York, passed April 22d, 1876, entitled "An Act in relation to the powers and duties of the Board of Commissioners of the Department of Public Parks, in connection with the American Museum of Natural History, and the Metropolitan Museum of Art," the said party of the first part is authorized and directed to enter into a contract with the said party of the second part, for the occupation by it of the buildings erected or to be erected on that portion of the Central Park in the City of New York, known as Manhattan Square, and for transferring thereto and establishing and maintaining therein its museum, library and collections, and carrying out the objects and purposes of said party of the second part; and,

Whereas, a building contemplated by said act has now been erected and nearly completed and equipped in a manner suitable for the purposes of said Museum, as provided in the first section of the Act of May 15, 1875, known as Chapter 351, of the Laws of 1875, for the purpose of establishing and maintaining therein the said Museum, as provided by the said last named act, and by the Act of April 5, 1871, known as Chapter 290, of the Laws of 1871; and,

Whereas, it is desired as well by the said party of the first part, as by the said party of the second part, that, immediately upon the completion and equipment of said building, the said party of the second part should be established therein, and should

transfer thereto its museum, library and collections, and carry out the objects and purposes of the said party of the second part;

Now, therefore, it is agreed by and between the said parties as follows, namely:

First.—That the said party of the first part has granted and demised and let, and doth, by these presents, grant, demise and let, unto the said party of the second part, the said buildings and the appurtenances thereunto belonging, to have and to hold the same so long as the said party of the second part shall continue to carry out the objects and purposes defined in its charter; or such other objects and purposes as by any future amendment of said charter may be authorized; and shall faithfully keep, perform, and observe the covenants and conditions herein contained on its part to be kept, performed and observed, or until the said building shall be surrendered by the said party of the second part, as hereinafter provided.

Secondly.—That neither the party of the first part, its successor or successors, nor the Mayor, Aldermen and Commonalty of the City of New York, shall be in any manner chargeable or liable for the preservation of the said building or the property of the party of the second part which may be placed therein, against fire, or for any damage or injury that may be caused by fire to the said property; but it is agreed that, damages as aforesaid excepted, the said party of the first part will keep said building, from time to time, in repair.

Thirdly.—That as soon after the completion and equipment of said building as practicable, said party of the second part shall transfer to, and place and arrange in said building, its museum, library and collections, or such portion thereof as can be properly displayed to the public therein, and shall have and enjoy the exclusive use of the whole of said building, subject to the provisions herein contained, and the rules and regulations herein prescribed, during the continuance of the term granted, or until a surrender thereof, as herein provided.

Fourthly.—That the exhibition halls of said building shall, on Wednesday, Thursday, Friday and Saturday of each week, and on all legal or public holidays, except Sunday, be kept open and accessible to the public, free of charge, from nine o'clock A. M.

until half an hour before sunset, under such rules and regulations as the party of the second part shall from time to time prescribe; but on the remaining days of the week the same shall be only open for exhibition to such persons, upon such terms as the said party of the second part shall from time to time direct. But all professors and teachers of the public schools of the City of New York, or other institutions of learning in said city, in which instruction is given free of charge, shall be admitted to all the advantages afforded by the said party of the second part, through its museum, library, apparatus, and collections, or otherwise, for study, research and investigation, free of any charge therefor, and to the same extent and on the same terms and conditions as any other persons are admitted to such advantages, as aforesaid.

Fifthly.—That the museum, library and collections, and all other property of said party of the second part, which shall or may be placed in said building, shall continue to be and remain absolutely the property of said party of the second part, and neither the said party of the first part nor the said the Mayor, Aldermen and Commonalty, shall by reason of said property being placed in said building, or continuing therein, have any right, title, property or interest therein; nor shall the said party of the second part, by reason of its occupation and use of said building under this agreement, acquire, or be deemed to have any right, title, property or interest in said building, except so far as expressly granted by this agreement.

Sixthly.—That the said party of the second part shall, on or before the first day of May, in every year, during the continuance of this agreement, submit to the said party of the first part, its successor or successors, a detailed printed report of the operations and transactions of the said party of the second part, and all its receipts and payments, for the year ending with the 31st day of December next preceding.

Seventhly.—That said party of the first part shall have, at all times, access to every part of the said building for general visitation and supervision, and also for the purpose of the performance of the duties devolved upon it by the laws of the State of New York, or of the City of New York. That the police powers and supervision of said party of the first part shall extend in, through

and about said building. That the said party of the second part may appoint, direct, control and remove all persons employed within said building, and in and about the care of said building, and the museum, library and collections therein contained.

Eighthly.—That said party of the second part may, at any time, after the expiration of three, and before the expiration of six, months from the date of the service of a notice in writing to said party of the first part, its successor or successors, or to the Mayor of the City of New York, of its intention so to do, quit and surrender the said premises and remove all its property therefrom; and upon and after such notice, the said party of the second part shall and will, at the expiration of the said six months, quietly and peaceably yield up and surrender unto the said party of the first part and its successors all and singular the aforesaid demised premises. And it is expressly understood and agreed by and between the parties hereto that if the said party of the second part shall omit to do, perform, fulfill or keep any or either of the covenants, articles, clauses and agreements, matters and things herein contained, which on its part are to be done, performed, fulfilled or kept, according to the true intent and meaning of these presents, then and from thenceforth this grant and demise shall be utterly null and void. And in such case it shall and may be lawful for said Department to serve or cause to be served on the said party of the second part a notice in writing declaring that the said grant hereinbefore made has become utterly null and void and thereupon the said party of the first part, its successor or successors (ninety days' time being first given to the said party of the second part to remove its property therefrom), may reënter, and shall again have, repossess and enjoy the premises aforementioned, the same as in their first and former estate, and in like manner as though these presents had never been made, without let or hindrance of the said party of the second part, anything here contained to the contrary notwithstanding.

Ninthly.—And it is further expressly understood and agreed, by and between the parties hereto, that this agreement may be wholly canceled and annulled, or, from time to time, altered, or modified, as may be agreed, in writing, between the said parties, or their successors, anything herein contained to the contrary in any wise notwithstanding.

In witness whereof, the party of the first part hath caused this agreement to be executed by their President and Secretary, pursuant to a resolution of the Board of Commissioners of said Department, adopted at a meeting held on the thirtieth day of January, in the year of our Lord one thousand eight hundred and seventy-eight; and the said party of the second part hath caused the same to be executed by their President, and their official seal affixed thereto, pursuant to a resolution of the Trustees of the American Museum of Natural History, adopted at a meeting held on the twelfth day of February, in the year of our Lord one thousand eight hundred and seventy-seven.

In presence of
D. PORTER LORD.

JAMES F. WENMAN,
President Department of Public Parks of the City of New York.

WILLIAM IRWIN,
Secretary Department of Public Parks of the City of New York.

SEAL of the American Museum of Natural History

ROBERT L. STUART,
President American Museum of Natural History

STATE OF NEW YORK }
City and County of New York, } ss.:

On this 12th day of February, in the year 1878, before me personally came James F. Wenman, President of the Department of Public Parks of the City of New York, and William Irwin, Secretary of the said Department of Public Parks, with both of whom I am personally acquainted, and both of whom being by me duly sworn, said that they reside in the City and County of New York; that the said James F. Wenman is the President, and the said William Irwin is the Secretary of the said Department of Public Parks, and that they signed their names to the foregoing agreement by order of the Board of Commissioners of the said Department of Public Parks, as such President and Secretary.

W. C. BESSON,
[SEAL.] *(73) Notary Public N. Y. Co.*

STATE OF NEW YORK }
City and County of New York, } ss.:

On this 12th day of February, in the year 1878, before me personally came Robert L. Stuart, the President of the American Museum of Natural History, with whom I am personally acquainted, who being by me duly sworn, said that he resides in the City and County of New York, that he is the President of the American Museum of Natural History, and that he knows the corporate seal of said museum, that the

seal affixed to the foregoing agreement is such corporate seal, that it is affixed thereto by order of the Board of Trustees of said American Museum of Natural History, and that he signed his name thereto by the like order, as President of said Museum.

W. C. BESSON,

[SEAL.] *(73) Notary Public N. Y. Co.*

Recorded in the office of the Register of the City and County of New York in Liber 1426 of Cons., page 402, February 16, A. D. 1878, at 9 o'clock A. M., and examined.

Witness my hand and official seal,

FREDERICK W. LOEW,

[SEAL.] Register.

NOTE.—July 25, 1892, by consent of the Trustees, section fourth was modified to enable the Trustees to open the Museum free to the public "throughout the year, excepting Mondays, but including Sunday afternoons and two evenings of each week."

June 29, 1893, by consent of the Trustees, section fourth was modified to enable the Trustees to open the Museum free of charge to the public "throughout the year for five days in each week, one of which shall be Sunday afternoon, and also two evenings of each week."

CONSTITUTION
OF THE
AMERICAN MUSEUM OF NATURAL HISTORY
IN THE CITY OF NEW YORK

REVISED AND AMENDED TO FEBRUARY 7, 1916

ARTICLE I

This Corporation shall be styled THE AMERICAN MUSEUM OF NATURAL HISTORY.

ARTICLE II

The several persons named in the charter, and such others as they may add to their number, which shall not exceed twenty-five in all at one time, and in addition, the Mayor, the Comptroller, and the President of the Department of Public Parks, of the City of New York, for the time being, *ex-officio*, shall be the Trustees to manage the affairs, property and business of the Corporation.

The members of the Board of Trustees holding office at the time of the regular quarterly meeting of November, 1905, shall then, or at the first meeting of the Board thereafter, be divided by lot into five classes of five members each, to serve for the terms of one, two, three, four and five years respectively from the date of the annual meeting of February, 1906. The Board of Trustees at each annual meeting thereafter, or an adjournment thereof, shall by ballot, by a majority vote of the Trustees present at the meeting, elect five Trustees to supply the places of the class whose term expires at that meeting; said newly elected Trustees to hold office for five years or until their successors are elected. In case of a vacancy in the Board by death, resignation, disqualification or otherwise, the vacancy shall be filled by ballot, in like manner, by the Board of Trustees at any regular meeting or special meeting, for the unexpired term. No person shall be eligible for election as Trustee unless his name shall be presented by the Nominating Committee at a regular or special meeting of the

Board previous to the meeting at which his name shall be acted upon. Written notice of such election and the vacancy to be filled shall be sent to the Trustees at least one week prior to said meeting.

ARTICLE III

The Trustees shall meet regularly, on the first Monday of every February and May, and the second Monday of November, at an hour and place to be designated, on at least one week's written notice from the Secretary, and shall annually, at the regular meeting in February, elect the officers and committees for the ensuing year. They shall also meet at any other time to transact special business on a call of the Secretary, who shall issue such call whenever requested so to do, in writing, by five Trustees, or by the President, and give written notice to each Trustee of such special meeting, and of the object thereof, at least three days before the meeting is held.

ARTICLE IV

Section 1. The officers of said Corporation shall be a President, a First Vice-President, a Second Vice-President, a Treasurer and a Secretary, who shall be elected from among the Trustees. These officers shall be elected by ballot, and the persons having a majority of the votes cast shall be deemed duly elected. They shall hold their offices for one year or until their successors shall be elected.

Sec. 2. The Board of Trustees shall appoint each year, in such manner as it may direct, the following Standing Committees: an Executive Committee, an Auditing Committee, a Finance Committee and a Nominating Committee. These Committees are all to be elected from the Trustees, and the members shall hold office for one year or until their successors shall be elected.

The Board of Trustees shall also have authority to appoint such other committees or officers as they may at any time deem desirable, and to delegate to them such powers as may be necessary.

The Board of Trustees shall have power to appoint a Director who, acting under the authority and control of the President, shall be the chief administrative officer of the Museum; but shall not be a member of the Board. He shall hold office during the pleasure of the Board.

ARTICLE V

SECTION 1. The President shall have the general supervision, direction and control of the affairs of the Corporation, and shall preside at all the meetings of the Museum and of the Trustees. In his absence or inability to act, the First or Second Vice-President shall act in his place, or in the absence of these officers, a Trustee appointed by the Executive Committee.

SEC. 2. The Secretary shall be present, unless otherwise ordered by the Board, at all the meetings of the Museum and Trustees, of the Executive Committee and such other Committees as the Board may direct. He shall keep a careful record of the proceedings of such meetings, shall preserve the seal, archives and correspondence of the Museum, shall issue notices for all meetings of the Trustees and various committees, and shall perform such other duties as the Board may direct.

The Board of Trustees shall have power to appoint an Assistant Secretary, who, under its direction, shall perform the duties of the Secretary in his absence or inability to act. The Assistant Secretary shall be an administrative officer of the Museum and shall act under the direction of the President or the Secretary. He shall hold office during the pleasure of the Board.

SEC. 3. The Treasurer shall receive and disburse the funds of the Museum. He shall report in writing, at each regular meeting of the Trustees, the balance of money on hand, and the outstanding obligations of the Museum, as far as practicable; and shall make a full report at the annual meeting of the receipts and disbursements of the past year, with such suggestions as to the financial management of the Museum as he may deem proper.

The Board of Trustees shall have power to appoint an Assistant Treasurer, who shall perform such duties as it may direct, and who shall hold office during its pleasure.

SEC. 4. The accounts of the Museum shall be kept at the General Office, in books belonging to it, which shall at all times be open to the inspection of the Trustees.

ARTICLE VI

The Executive Committee shall consist of nine Trustees, the President, the Secretary and the Treasurer *ex-officio* and six others, to be appointed each year in the manner provided in Article IV. They shall have the control and regulation of the col-

lections, library and other property of the Museum; and shall have power generally to conduct the business of the Museum, subject to the approval of the Board. Five members of the Committee shall constitute a quorum for the transaction of business.

ARTICLE VII

The Auditing Committee shall consist of three Trustees. They shall have the books of the Museum duly audited, at least once in six months, by an authorized public accountant to be selected by them.

ARTICLE VIII

The Finance Committee shall consist of five Trustees, the Treasurer *ex-officio* and four others to be elected each year in the manner provided in Article IV. They shall have general charge of the moneys and securities of the Endowment and other permanent funds of the Museum, and such real estate as may become the property of the Corporation, with authority to invest, sell and reinvest the same, subject to the approval of the Board of Trustees.

Three members shall constitute a quorum.

ARTICLE IX

The Nominating Committee shall be composed of three Trustees, to whom shall be first submitted the names of any persons proposed as candidates for election to membership in the Board of Trustees. The Committee shall report on such candidates from time to time, as it may deem to be for the interest of the Museum. A fortnight before the annual meeting they shall prepare and mail to each member of the Board of Trustees a list of the candidates for officers and Trustees to be balloted for at the said meeting.

ARTICLE X

Nine Trustees shall constitute a quorum for the transaction of business, but five Trustees meeting may adjourn and transact current business, subject to the subsequent approval of a meeting at which a quorum shall be present.

ARTICLE XI

By-Laws may be made from time to time by the Trustees providing for the care and management of the property of the

Corporation and for the government of its affairs, and may be amended at any meeting of the Trustees by a vote of a majority of those present, after a month's notice in writing of such proposed amendment.

ARTICLE XII

The incorporators of The American Museum of Natural History shall be designated as Founders of the Museum.

Any person contributing or devising $50,000 in cash, securities or property to the funds of the Museum may be elected a Benefactor of the Museum.

Any person contributing $25,000 in cash, securities or property to the funds of the Museum may be elected an Associate Founder of the Museum, who after being so elected shall have the right in perpetuity to appoint the successor in such associate foundership.

Any person contributing $10,000 to the funds of the Museum may be elected an Associate Benefactor of the Museum, who after being so elected shall have the right in perpetuity to appoint the successor in such associate benefactorship.

Any person contributing $1,000 to the funds of the Museum, at one time, may be elected a Patron of the Museum, who after being so elected shall have the right in perpetuity to appoint the successor in such patronship.

Any person contributing $500 to the funds of the Museum, at one time, may be elected a Fellow of the Museum, who after being so elected shall have the right to appoint one successor in such fellowship.

No appointment of a successor shall be valid unless the same shall be in writing, endorsed on the certificate, or by the last will and testament.

Any person contributing $100 to the funds of the Museum, at one time, may be elected a Life Member of the Museum.

Any person may be elected to the above degrees who shall have given to the Museum books or specimens which shall have been accepted by the Executive Committee, or by the President, to the value of twice the amount in money requisite to his admission to the same degree.

Benefactors, Associate Founders, Associate Benefactors, Patrons, Fellows and Life Members shall be elected by the Board of Trustees or by the Executive Committee, and the President and

Secretary shall issue diplomas accordingly under the seal of the Museum.

In recognition of scientific services rendered, the Trustees may also elect Honorary Fellows of the Museum in their discretion.

ARTICLE XIII

Any Trustee who shall fail to attend three consecutive regular meetings of the Board shall cease to be a Trustee, unless excused by the Board.

ARTICLE XIV

No alterations shall be made in this Constitution, unless at a regular meeting of the Trustees, or at a special meeting called for this purpose; nor by the votes of less than a majority of all the Trustees; nor without notice in writing of the proposed alterations, embodying the amendment proposed to be made, having been given at a previous regular meeting.

BY-LAWS

REVISED AND AMENDED TO FEBRUARY 6, 1923

I

If any Trustee shall accept a salary from this Corporation he shall thereby be disqualified for the time being from acting as a Trustee thereof; provided, that the Board of Trustees shall have power to suspend the operation of this law in any special case.

II

Any vacancies occurring in the membership of the several committees during the interval between the regular meetings of the Board of Trustees may be filled at a regular meeting of the Executive Committee, until the next meeting of the Board.

III

The regular meetings of the Executive Committee shall be held on the third Wednesday of each month, but special meetings may be held at any other time on a two days' call issued by order of the President, or at the request of three of its members.

IV

All bequests or legacies, not especially designated, and all membership fees, excepting Sustaining, Annual and Associate Membership fees, shall hereafter be applied to the *Permanent Endowment Fund,* the interest only of which shall be applied to the use of the Museum as the Board shall direct.

V

SECTION 1. No indebtedness (other than for current expenses) shall be incurred by any committee, officer or employee of the Museum, except as provided for in the Constitution.

SEC. 2. No bills shall be paid unless approved by the Director or the Executive Secretary, and countersigned by one of the following named Trustees: President, First Vice-President, Second Vice-President, or Treasurer.

SEC. 3. The accounts of the Museum shall be under the care of a Bursar, who, on recommendation of the President and the Treasurer, shall be appointed by the Board of Trustees and be under its direction. He shall give such bonds for the faithful performance of his duties as the Board may direct, and shall hold office during the pleasure of the Board. The Bursar, acting under the direction of the President or Treasurer, shall be the official representative of the Treasurer at the Museum, and as such shall be the head of the Treasurer's office there.

VI

The Board of Trustees shall have power to appoint, on recommendation of the Director, a Superintendent of Building and such other officers as may be deemed necessary, who, acting under the instruction of the Director or the Executive Secretary, shall have charge of the construction, maintenance, alterations and repairs of the buildings, and shall be responsible for their sanitary condition. They shall hold office during the pleasure of the Board.

VII

The Board of Trustees shall have power to appoint a Registrar, who, acting under the instruction of the Director or Executive Secretary, shall inspect all incoming and outgoing shipments, and shall attend to the details of matters relating to customs.

VIII

Benefactors, giving $50,000, are each entitled to 1 Subscriber's Ticket, 10 Complimentary Season Tickets and 10 Tickets for a single admission.

Associate Benefactors, giving $10,000, are each entitled to 1 Subscriber's Ticket, 10 Complimentary Season Tickets and 10 Tickets for a single admission.

Patrons, giving $1,000, are each entitled to 1 Subscriber's Ticket, 5 Complimentary Season Tickets and 10 Tickets for a single admission.

Fellows, giving $500, are each entitled to 1 Subscriber's Ticket and 10 Tickets for a single admission.

Life Members, giving $100, are each entitled to 1 Subscriber's Ticket and 7 Tickets for a single admission.

Sustaining Members, paying $25 yearly, are each entitled to 1 Subscriber's Ticket and 5 Tickets for a single admission.

Annual Members, paying $10 yearly, are each entitled to 1 Subscriber's Ticket and 4 Tickets for a single admission.

Associate Members, paying $3.00 yearly, are each entitled to 1 Subscriber's Ticket, admitting to the Members' Room, and 2 Tickets for a single admission; also to current copies of the Museum Journal and the Annual Report.

IX

The Board of Trustees hereby creates a class of honorary Members, without membership fee, to be designated as Corresponding Members. Upon recommendation of the Scientific Staff, any person interested in or actively engaged in scientific research may be elected by the Board of Trustees a Corresponding Member, such election being for a period of five years and subject to renewal. Corresponding Members shall be entitled to current numbers of *Natural History* and to a copy of such scientific publications of the Museum as they may desire for the prosecution of their researches.

NOTE.—A Subscriber's Ticket admits to the Members' Room. also to all Receptions and Special Exhibitions, and may be used by any member of the Subscriber's family.

The Single Admission Tickets admit the bearers to the Members' Room, and are issued to Subscribers for distribution among friends and visitors.

FOR THE CONSTRUCTION AND EQUIPMENT OF THE SOUTHEAST WING AND COURT BUILDING OF THE AMERICAN MUSEUM OF NATURAL HISTORY

LEGAL ENACTMENTS OF 1921

By the Board of Estimate and Apportionment

Resolved, By the Board of Estimate and Apportionment, that, pursuant to the provisions of section 169 of the Greater New York Charter, as amended by chapter 618 of the Laws of 1921, the Comptroller be and is hereby authorized to issue, in the manner provided by section 169 of the Greater New York Charter, serial bonds of The City of New York, in an amount not exceeding one million five hundred thousand dollars ($1,500,000), at such rate of interest as the Commissioners of the Sinking Fund shall prescribe; the proceeds to the amount of the par value thereof to be used by the Department of Parks, Borough of Manhattan, for the construction and equipment of the southeast wing and court building of the American Museum of Natural History; the cost of general construction, estimated at approximately one million three hundred thousand dollars ($1,300,000), to be financed by an issue of serial bonds, the principal thereof to mature in equal annual installments within a period not exceeding forty (40) years; the cost of plumbing, heating and ventilating, and electric work and fixtures, estimated at approximately one hundred and ninety thousand dollars ($190,000), to be financed by an issue of serial bonds, the principal thereof to mature in equal annual installments within a period not exceeding fifteen (15) years; and the cost of furniture and equipment, estimated at approximately ten thousand dollars ($10,000), to be financed by an issue of serial bonds, the principal thereof to mature in equal annual installments within a period not exceeding ten (10) years; said apportionment of the costs to be subject to modification if necessary, upon the awarding of the contracts for the several portions of the work; provided, however that no encumbrance by contract or otherwise shall be made against these authorizations, nor shall bids upon contemplated contracts be advertised for until after approval by the Board of Estimate and Apportionment or its duly authorized representative of such expenditure, or of the plans, specifications, estimates of cost and forms of such contracts, nor shall any architect, engineer, expert or departmental employee be engaged or employed as a charge against such authorization, except after approval by said Board of such employment and of the fee or wage to be paid by preliminary and final contract voucher or budget schedule, unless in the case of departmental employees such employment is in accordance with schedules approved by said Board.

A true copy of resolution adopted by the Board of Estimate and Apportionment, December 28, 1921.

James Matthews
Assistant Secretary.

APPROPRIATION AND EXPENDITURES THEREON TO DECEMBER 31, 1923

Receipts:			
By direct appropriation (December 28, 1921, C. D. P. 3 G. H. & J.)			$1,500,000.00
Expenditures (Including Contracts and Architects' Fees):			
Contract No. 1, Construction and Electrical Work		$1,069,900.00	
Contract No. 2, Plumbing		23,961.00	
Contract No. 3, Ventilation and Humidifying		19,600.00	
Contract No. 4, Steam Heating and Fume Removal		66,431.00	
Architects' Fees		22,916.33	
		$1,202,808.33	
Balances:			
Contract No. 1	$211,558.67		
Contract No. 2	6,764.00		
Contract No. 3	11,400.00		
Contract No. 4	13,569.00		
	$243,291.67		
Unappropriated Balances	$53,900.00	$297,191.67	$1,500,000.00

FOR EQUIPMENT AND CASE CONSTRUCTION OF THE AMERICAN MUSEUM OF NATURAL HISTORY

LEGAL ENACTMENTS OF 1922

BY THE BOARD OF ESTIMATE AND APPORTIONMENT

RESOLVED, By the Board of Estimate and Apportionment, that, pursuant to the provisions of section 169 of the Greater New York Charter, as amended, the Comptroller be and is hereby authorized to issue, in the manner provided by said section 169, serial bonds of The City of New York, in an amount not exceeding one hundred and ten thousand nine hundred and seventy-five dollars ($110,975), at such rate of interest as the Commissioners of the Sinking Fund shall prescribe, the principal thereof to mature in equal annual installments within a period not exceeding two (2) years, the proceeds to the amount of the par value thereof to be used by the Commissioner of Parks, Borough of Manhattan, for construction and equipment in the existing building of the American Museum of Natural History; provided, however, that no encumbrance by contract or otherwise shall be made against this authorization nor shall bids upon contemplated contracts be advertised for, until after approval by the Board of Estimate and Apportionment or its duly authorized representative, of such proposed expenditure or of the plans, specifications, estimates of cost and forms of such contracts, nor shall any architect, engineer, expert or departmental employee be engaged or employed as a charge against such authorization except after approval by said Board of such employment and of the fee or wage to be paid by preliminary and final contract, voucher or Budget schedule, unless in the case of departmental employee, such employment is in accordance with schedule approved by said Board.

A true copy of resolution adopted by the Board of Estimate and Apportionment, April 7, 1922.

JAMES MATTHEWS,
Assistant Secretary.

APPROPRIATION AND EXPENDITURES THEREON TO DECEMBER 31, 1923

Receipts:		
By direct appropriation (April 7, 1922, C. D. P. 3 K.)		$110,975.00
Expenditures:		
Mechanics' Payroll	$22,800.00	
Contracts paid	36,840.00	
Materials	11,103.61	$70,743.61
Balance December 31, 1923		$40,231.39

FOR THE CONSTRUCTION AND EQUIPMENT OF THE SCHOOL SERVICE BUILDING OF THE AMERICAN MUSEUM OF NATURAL HISTORY

LEGAL ENACTMENTS OF 1922

By the Board of Estimate and Apportionment

Resolved, By the Board of Estimate and Apportionment, that, pursuant to the provisions of section 169 of the Greater New York Charter, as amended, the Comptroller be and is hereby authorized to issue, in the manner provided by said section 169, serial bonds of The City of New York, in an amount not exceeding five hundred and seventy thousand dollars ($570,000), at such rate of interest as the Commissioners of the Sinking Fund shall prescribe, the principal thereof to mature in equal annual installments within a period not exceeding fifteen (15) years, the proceeds to the amount of the par value thereof to be used by the Commissioner of Parks, Borough of Manhattan, for the construction and equipment of a School Service Building in the southwest Court of the American Museum of Natural History; provided, however, that no encumbrance by contract or otherwise shall be made against this authorization nor shall bids upon contemplated contracts be advertised for, until after approval by the Board of Estimate and Apportionment, or its duly authorized representative, of such proposed expenditure or of the plans, specifications, estimates of cost and forms of such contracts, nor shall any architect, engineer, expert or departmental employee be engaged or employed as a charge against such authorization except after approval by said Board of such employment and of the fee or wage to be paid by preliminary and final contract, voucher or budget schedule, unless in the case of departmental employees, such employment is in accordance with schedules approved by said Board.

A true copy of resolution adopted by the Board of Estimate and Apportionment, April 21, 1922.

James Matthews
Assistant Secretary.

APPROPRIATION AND EXPENDITURES THEREON TO DECEMBER 31, 1923

Receipts:	
By direct appropriation (April 21, 1922, C. D. P. 3 L.)..	$570,000.00
Expenditures:	
Preliminary Architects' Fees	5,700.00
Balance December 31, 1923.....	$564,300.00

FOR IMPROVEMENTS TO AND ADDITIONAL EQUIPMENT FOR EXISTING BUILDING OF THE AMERICAN MUSEUM OF NATURAL HISTORY

LEGAL ENACTMENTS OF 1923

BY THE BOARD OF ESTIMATE AND APPORTIONMENT

RESOLVED, By the Board of Estimate and Apportionment, that pursuant to the provisions of section 169 of the Greater New York Charter, as amended, the Comptroller be and he is hereby authorized to issue, in the manner provided by said section 169 of the Charter, serial bonds of The City of New York in an amount not exceeding one hundred and forty-four thousand nine hundred and fifty dollars ($144,950) at such rate of interest as the Commissioners of the Sinking Fund shall prescribe, the principal thereof to the amount of forty-five thousand four hundred and thirty-five dollars ($45,435), to mature within a period not exceeding twenty-five (25) years, and to the extent of ninety-nine thousand five hundred and fifteen dollars ($99,515) to mature within a period not exceeding fifteen (15) years, the proceeds to the amount of the par value thereof to be used by the Commissioner of Parks, Borough of Manhattan, for improvements to and additional equipment for existing building of the American Museum of Natural History; provided, however, that no expenditure by contract or otherwise shall be made against this authorization nor shall bids upon contemplated contracts be advertised for until after approval by the Board of Estimate and Apportionment, or its duly authorized representatives, of such expenditure, or of the plans, specifications, estimates of cost, and form of proposed contracts for said improvement; nor shall any architect, engineer, expert or departmental employee be engaged or employed as a charge against such authorization except after approval by said Board of such employment and of the fee or wage to be paid by preliminary and final contract, voucher or budget schedule, unless in case of departmental employees such employment is in accordance with schedules approved by said Board.

A true copy of resolution adopted by the Board of Estimate and Apportionment, June 29, 1923.

JAMES MATTHEWS,
Assistant Secretary.

APPROPRIATION AND EXPENDITURES THEREON TO DECEMBER 31, 1923

Receipts:		
By direct appropriation (June 29, 1923, C. D. P. 3 P.), for improvements to existing building		$45,435.00
Receipts:		
By direct appropriation (June 29, 1923, C. D. P. 3 Q.), for additional equipment for existing building		$99,515.00
Expenditures:		
Mechanics' Payroll	$396.00	
Materials	2,194.79	2,590.79
Balance December 31, 1923		$96,924.21

ADDITIONAL FOR CONSTRUCTION AND EQUIPMENT OF SCHOOL SERVICE BUILDING (CODE C. D. P. 3 L.)

ALSO FOR THE CONSTRUCTION OF INTERCOMMUNICATING PASSAGEWAYS (CODE C. D. P. 3 M.)

LEGAL ENACTMENTS OF 1923

BY THE BOARD OF ESTIMATE AND APPORTIONMENT

RESOLVED, By the Board of Estimate and Apportionment, that, pursuant to the provisions of section 169 of the Greater New York Charter, as amended, the Comptroller be and he is hereby authorized to issue, in the manner provided by said section 169 of the Charter, corporate stock of The City of New York in an amount not exceeding one hundred and sixty-three thousand eight hundred dollars ($163,800) at such rate of interest as the Commissioners of the Sinking Fund shall prescribe, the principal thereof to mature within a period not exceeding fifteen (15) years, the proceeds to the amount of the par value thereof to be used by the Commissioner of Parks, Borough of Manhattan, as follows:

In addition to the appropriation heretofore made (Code C. D. P. 3 L.), for the construction and equipment of a school service building in the southwest court of the American Museum of Natural History	$121,800.00
For the construction of intercommunicating passageways, American Museum of Natural History. (Code C. D. P. 3 M.)	42,000.00

—provided, however, that no expenditure by contract or otherwise, shall be made against this authorization nor shall bids upon contemplated contracts be advertised for until after approval by the Board of Estimate and Apportionment, or its duly authorized representative, of such expenditure, or of the plans, specifications, estimates of cost, and form of proposed contracts for said improvement; nor shall any architect, engineer, expert or departmental employees be engaged or employed as a charge against such authorization except after approval by said Board of such employment and of the fee or wage to be paid by preliminary and final contract, voucher or Budget schedule unless in case of departmental employees such employment is in accordance with the schedules approved by said Board.

A true copy of resolution adopted by the Board of Estimate and Apportionment, June 29, 1923.

JAMES MATTHEWS,
Assistant Secretary.

FOR THE REPLACEMENT OF TWO ELEVATORS IN THE AMERICAN MUSEUM OF NATURAL HISTORY

LEGAL ENACTMENTS OF 1923

BY THE BOARD OF ALDERMEN

RESOLVED, That, in pursuance of the provisions of subdivision 8 of section 188 of the Greater New York Charter, the Board of Estimate and Apportionment be and it is hereby requested to authorize the Comptroller to issue special revenue bonds to the amount of forty thousand dollars ($40,000), the proceeds whereof to be used by the Commissioner of Parks, Borough of Manhattan, for the purpose of providing funds for the replacement of two elevators in the American Museum of Natural History; all obligations contracted for hereunder to be incurred on or before December 31, 1923.

Adopted by the Board of Aldermen June 12, 1923. Three-fourths of all the members elected voting in favor thereof.

Approved by the Mayor June 20, 1923.

M. J. CRUISE,
Clerk.

Compared and Correct.

FOR THE REPLACEMENT OF TWO ELEVATORS IN THE AMERICAN MUSEUM OF NATURAL HISTORY

LEGAL ENACTMENTS OF 1923

BY THE BOARD OF ESTIMATE AND APPORTIONMENT

RESOLVED, That the resolution adopted by the Board of Aldermen on June 12, 1923, and approved by the Mayor on June 20, 1923, requesting an issue of special revenue bonds in the sum of forty thousand dollars ($40,000), the proceeds whereof to be used by the Commissioner of Parks, Borough of Manhattan, for providing funds for the replacement of two elevators in the American Museum of Natural History, be and the same is hereby approved of and concurred in by the Board of Estimate and Apportionment; and for the purpose of providing means therefor, the Comptroller be and is hereby authorized, pursuant to the provisions of subdivision 8 of section 188 of the Greater New York charter, to issue special revenue bonds of The City of New York to an amount not exceeding forty thousand dollars ($40,000), redeemable from the tax levy of the year succeeding the year of their issue; all obligations contracted for hereunder to be incurred on or before December 31, 1923.

A true copy of resolution adopted by the Board of Estimate and Apportionment, July 13, 1923.

JAMES MATTHEWS,
Assistant Secretary.

APPROPRIATION AND EXPENDITURES THEREON TO DECEMBER 31, 1923

Receipts:	
By direct appropriation (July 13, 1923, R. D. P. 21 J.)....	$40,000.00
Expenditures:	
Contract awarded	33,518.00
Balance on hand December 1, 1923.....	$6,482.00

ELEVENTH ANNUAL REPORT
OF THE
PENSION BOARD
OF
THE AMERICAN MUSEUM OF NATURAL HISTORY

For the Year 1923

OFFICERS AND MEMBERS OF THE PENSION BOARD

1923

Chairman
FELIX M. WARBURG

Vice-Chairman
RALPH W. TOWER

Treasurer
GEORGE F. BAKER, JR.

Secretary
GEORGE N. PINDAR

Trustee Members

ADRIAN ISELIN
WALTER B. JAMES
A. PERRY OSBORN
FELIX M. WARBURG

Employee Members

HARRY F. BEERS
RALPH W. TOWER
GEORGE N. PINDAR

Bursar
FREDERICK H. SMYTH

Counsel
LEWIS L. DELAFIELD

Consulting Actuary
S. HERBERT WOLFE

Medical Examiners
GEORGE M. MACKENZIE, M. D.
DANA W. ATCHLEY, M. D.

To the President and Trustees of the American Museum of Natural History and to the Subscribers to the Fund:

In accordance with the Rules and Regulations, I have the honor to submit herewith for your consideration the Eleventh Annual Report of the activities of the Pension Fund and of its financial operations for the fiscal year ending December 31, 1923.

AN undertaking of the nature of our Pension System requires the watchful care of those charged with its supervision. During the past year our subscribers have manifested an increased interest in its operation, growth and success. Frequent constructive criticism indicates that all contributors have its best interests under consideration, and the Pension Board intends whenever possible to do its part to bring about such beneficial changes as will be mutually advantageous.

The success of any pension system is determined by its ability effectively to carry out the relief measures incorporated in the plan. The accumulation of a large and necessary reserve fund is not the only essential detail required for the successful operation of a pension system by a firm or corporation. There must be a close bond of sympathy established between the employer and the employee, similar to the spirit which prevails in our institution.

The steady and continued growth of our accumulated reserve calls for caution and discernment in making safe investments, and an equitable administration of the rules demands judgment and wise decision. For upwards of ten years the thought has prevailed that only by the accumulation of a large capital account would it be possible to judge whether the present rules could be liberalized for the benefit and enjoyment of subscribing employees, and we are happy to state that there is every prospect soon of being able to bring this about without impairing the fund; indeed, by adopting certain suggested adjustments now under way, there is a promise that we may even increase our present satisfactory reserve. Warranty for the proposed

liberalization is found as a result of the adjustments and also through the adoption by the Trustees a year ago of our request "that they as well as their successors will at all times, should the need arise, give full consideration to the obligations of the Fund and to the employees."

More than a decade of experience has satisfactorily demonstrated to us that the service factor of an employee is to be as fully considered as the age factor. Every individual who has given the best years of his working life to one firm or corporation, and particularly those employees in public or semi-public institutions, should be entitled to the comforting thought that they have provided for a few years of freedom in later life in which they may devote themselves to some cherished aspiration.

The suggestion has been made that because of the close contact formed between the subscribers to the Pension Fund and the Pension Board, this is an opportune time to remind subscribing employees that their affiliation with the Pension System does not relieve them of their responsibilities and duty to their employer. It was never intended that our Pension System should act as an intermediary in the working relations existing between subscriber and employer. Neither was it the intent that the institution of a pension system should in any manner impede the employer in his rights to maintain discipline among his workers. Every employee should recognize the justice of the principle that only by conformance with the rules and regulations of any business can it be carried on successfully. The Pension Board, however, does function whenever there is any infringement of the employees' rights which are accorded them by the Pension Rules and Regulations.

To cement even closer the present cordial working relations with the Trustees of the Corporation, through the foresight of President Osborn there has been created a Welfare Committee which will take cognizance of the general health and working conditions of employees to the end that both parties to our co-operative agreement may be benefited.

Again, the close of the year is an opportune time to renew our expressions of appreciation to those who were thoughtful enough to devise a retirement system for the employees of the American Museum of Natural History. Cato said—"The best

way to keep good acts in memory is to refresh them with new," and it is with this thought in mind that we recall to you the feelings which prompted Mr. Archer M. Huntington to establish an initial endowment for the foundation of a Pension System, and the idea of President Osborn in causing the first steps to be taken to that end, together with the cordial and consistent endeavors of the Trustees of the Corporation and the subscribing employees to work together in such harmony as to produce upwards of a decade of successful co-operation.

The members of the Pension Board have at all times manifested a deep interest in the physical well-being of all of the employees of the institution regardless of whether they were participants in the Pension Fund or not. During the past year hospital treatment, medical advice and physical examinations have been freely rendered to those in need. It is our hope that in the near future it will be possible to arrange for a system of periodic physical examinations for every employee. We feel that it is the duty of an individual to exercise as much care over his body as he would over a prized machine. The realization that the human machine is the only one for which there are no spare parts, and that it should occasionally visit the "service station," should be uppermost in the minds of us all.

We would take this opportunity to express to Dr. George M. Mackenzie, who has just been obliged to sever his relations with us, our appreciation of all that he has done to aid those of our employees who have been sick or disabled. In December last, Dr. Dana W. Atchley, of the Presbyterian Hospital, was selected as the successor to Dr. Mackenzie. Personally interested in the work of the institution, he has also shown an abiding interest in its personnel. Through the efforts of these physicians, very satisfactory hospital arrangements have been concluded for our employees.

The attention of the trained legal mind of Mr. Lewis L. Delafield has been required in several perplexing matters, and although he gives his services gratuitously, the same thought and care has gone into these matters as is applied by him to the complicated cases coming to his office. At the present time he is engaged in putting into legal terminology changes which have been proposed as an improvement in the present system.

The new year opens auspiciously, and if we are able to accomplish the ends for which we are striving, there is no reason why its close should not witness a greater success than any we have known heretofore.

FELIX M. WARBURG,
Chairman.

February 1, 1924.

STATEMENT OF MEMBERSHIP

1923

ACTIVE

Subscribing Employees, December 31, 1922		266
New Subscribers, January 1-December 31		37
		303
Resignations	13	
Retired	4	
Deaths	1	18
Membership December 31, 1923		285

RETIRED

Pensioned Employees, December 31, 1922	5	
Pensions allowed during 1923	4	
	9	
Deaths	1	8
Total Membership, December 31, 1923		293

STATEMENT OF PENSION ALLOWANCES

Name	Yearly Amount	Date of Retirement	Period of Payment
H. Ernestine Ripley	$416.00	Jan. 1, 1919	16 years
George A. Young	253.03	Feb. 1, 1919	15 years
Adam Hermann	988.00	Dec. 31, 1919	Life
James Kenney	406.16	Sept. 1, 1922	18 years
*John Burke	527.29	Sept. 1, 1922	23 years, plus
A. E. Anderson	250.00	Jan. 1, 1923	20 years
Herman Langfelder	390.59	June 1, 1923	15 years, 9 months
James McGovern	458.62	Sept. 1, 1923	17 years, 3 months
George J. Beeth	515.54	Nov. 21, 1923	18 years, 9 months

*Deceased Sept. 21, 1923.

Deceased

PHILIPP COHN

Philipp Cohn was born in Germany, September 7, 1851. He came to the Museum in 1909, where he served first as a worker in the Department of Physiology, later becoming an assistant osteologist, in which position he was engaged at the time of his last illness. He was very efficient and possessed of a quiet and kindly disposition and those traits of character which made him a friendly associate with other employees. He died December 10, 1923.

JOHN BURKE

John Burke was born November 2, 1850, in Ireland. He came to the Museum in 1898 and was assigned to the Department of the Superintendent of Buildings. Generous to a fault, his ready wit and genial companionship made him welcome among his associates. Such was his interest in the institution where he worked that it was with extreme reluctance that he was enforced to retire because of ill health and the infirmities of age. The absence of his cheerful spirit was greatly felt among his co-workers at the time of his retirement and the notice of his passing on September 21, 1923, was received with a keen sense of loss.

Financial Statement
of the
Pension Fund
of the
American Museum of Natural History
1923

Invested Funds

	Par Value	Income	Book Value
Endowment Fund	$1,258.37	$50.34	$1,140.39
Investment Fund	264,341.63	11,525.16	243,168.19
Total	$265,600.00	$11,575.50	$244,308.58

STATEMENT OF INVESTED FUNDS

Par Value	Securities	Due	Rate of Int.	Interest Payable	Ann. Int.	Date Acquired	Book Value
$5,000 00	Union Pacific Railroad Company, 1st Lien & Refunding Mortgage Bonds	2008	4%	Mar.-Sept.	$200 00	Feb. 26, 1914	$4,687 50
5,000 00	Chicago & Northwestern Railway Company, General Mortgage Bonds	1987	4%	May-Nov.	200 00	July 7, 1914	4,725 00
5,000 00	Pennsylvania Railroad Company, General Mortgage Bonds.	1965	4½%	June-Dec.	225 00	June 4, 1915	4,887 50
5,000 00	Baltimore & Ohio Railroad Co., Refunding & General Mortgage Bonds	1995	5%	June-Dec.	250 00	Dec. 29, 1915	5,050 00
5,000 00	Chicago, Milwaukee, St. Paul Railway Company, General & Refunding Mortgage Bonds	2014	4½%	Apr.-Oct.	225 00	May 5, 1916	4,668 75
5,000 00	Atchison, Topeka & Santa Fe Railway Company, General Mortgage Bonds	1995	4%	Apr.-Oct.	200 00	May 29, 1916	4,687 50
5,000 00	Norfolk & Western Railway, First Consol. Mortgage Bonds	1996	4%	Apr.-Oct.	200 00	May 29, 1916	4,681 25
5,000 00	New York Central Railroad Co., Refunding & Improvement Bonds	2013	4½%	Apr.-Oct.	225 00	May 29, 1916	4,706 25
5,000 00	Southern Pacific Railroad Co., First Refunding Mortgage Bonds	1955	4%	Jan.-July	200 00	May 29, 1916	4,533 75
5,000 00	Northern Pacific Railway Co., Refunding & Improvement Mortgage Bonds	2047	4½%	Jan.-July	225 00	July 17, 1916	4,825 00
5,000 00	Illinois Central Railroad Co., Refunding Mortgage Bonds.	1955	4%	May-Nov.	200 00	Oct. 18, 1916	4,518 75
5,000 00	Chicago, Burlington & Quincy R. R. Company, General Mortgage Bonds	1958	4%	Mar.-Sept.	200 00	Dec. 30, 1916	4,717 50
5,000 00	Louisville & Nashville R. R. Co., Unified Mortgage Bonds	1940	4%	Jan.-July	200 00	Apr. 12, 1917	4,656 25
6,000 00	Baltimore & Ohio R. R. Co. (Pittsburgh, L. Erie & W. Va.), Refunding Mortgage Bonds	1941	4%	May-Nov.	240 00	July 16, 1917	4,808 75
5,000 00	Pennsylvania R. R. Co., General Mortgage Bonds	1965	4½%	June-Dec.	225 00	Oct. 19, 1917	4,608 75
1,000 00	Atchison, Topeka & Santa Fe Ry. Co., General Mortgage Bonds	1995	4%	Apr.-Oct.	40 00	Mar. 12, 1918	821 25
1,000 00	Norfolk & Western Ry. Co., Consolidated Bonds	1996	4%	Apr.-Oct.	40 00	Mar. 12, 1918	831 25
2,000 00	Union Pacific R. R. Co., 1st Lien Refunding Mortgage Bonds	2008	4%	Mar.-Sept.	80 00	Mar. 12, 1918	1,592 50
2,000 00	Southern Pacific R. R. Co., 1st Refunding Mortgage Bonds	1955	4%	Jan.-July	80 00	Mar. 12, 1918	1,582 50
5,000 00	Great Northern Ry. Co., 1st Refunding Mortgage Bonds..	1961	4¼%	Jan.-July	212 50	May 10, 1918	4,456 25
4,000 00	Atchison, Topeka & Santa Fe Ry. Co., General Mortgage Bonds	1995	4%	Apr.-Oct.	160 00	Aug. 19, 1918	3,250 00
2,000 00	Chicago, Burlington & Quincy R. R. Co., General Mortgage Bonds	1958	4%	Mar.-Sept.	80 00	Aug. 20, 1918	1,602 50
5,000 00	United States of America Third Liberty Loan Bonds	1928	4¼%	Mar.-Sept.	212 50	Nov. 30, 1918	4,890 00
3,000 00	Chicago, Burlington & Quincy R. R. Co., General Mortgage Bonds	1958	4%	Mar.-Sept.	120 00	Jan. 27, 1919	2,486 25

Par Value	*Securities*	*Due*	*Rate of Int.*	*Interest Payable*	*Ann. Int.*	*Date Acquired*	*Book Value*
3,000 00	Union Pacific Railroad Co., 1st & Refunding Mortgage Bonds	2008	4%	Mar.-Sept.	120 00	Jan. 27, 1919	2,460 00
3,000 00	N. Y. C. Municipal Bonds	1927	4½%	Jan.-July	135 00	Sept. 19, 1919	3,001 88
2,000 00	Pennsylvania R. R. Co., General Mortgage Bonds	1968	5%	June-Dec.	100 00	Oct. 2, 1919	1,827 50
5,000 00	United States of America Third Liberty Loan Bonds	1928	4¼%	Mar.-Sept.	212 50	Oct. 11, 1920	4,535 13
5,000 00	United States of America Fourth Liberty Loan Bonds	1933/38	4¼%	Apr.-Oct.	212 50	Nov. 12, 1920	4,364 13
5,500 00	United States of America Second Liberty Loan Bonds	1942	4¼%	May-Nov.	233 75	Jan. 20, 1921	4,838 44
5,500 00	United States of America Second Liberty Loan Bonds	1942	4¼%	May-Nov.	233 75	Feb. 10, 1921	4,761 44
5,000 00	United States of America Third Liberty Loan Bonds	1928	4¼%	Mar.-Sept.	212 50	Apr. 7, 1921	4,522 12
40,000 00	United States of America Second Liberty Loan Bonds	1942	4¼%	May-Nov.	1,700 00	July 22, 1921	34,461 88
5,600 00	United States of America Second Liberty Loan Bonds	1942	4¼%	May-Nov.	238 00	Aug. 10, 1921	4,912 82
5,000 00	United States of America Second Liberty Loan Bonds	1942	4¼%	May-Nov.	212 50	Dec. 10, 1921	4,858 13
5,000 00	United States of America Second Liberty Loan Bonds	1942	4¼%	May-Nov.	212 50	Dec. 30, 1921	4,854 13
5,000 00	United States of America Third Liberty Loan Bonds	1928	4¼%	Mar.-Sept.	212 50	Mar. 7, 1922	4,914 73
5,000 00	New York Central Railroad Co., Refunding Mortgage Bonds	2013	5%	Apr.-Oct.	250 00	May 5, 1922	4,807 50
5,000 00	Chicago & Northwestern Railway Company, General Bonds	1987	4%	May-Nov.	200 00	June 15, 1922	4,257 50
5,000 00	Northern Pacific Railway Co., Refunding Mortgage Bonds.	2047	5%	Jan.-July	250 00	Aug. 3, 1922	4,888 75
3,000 00	Southern Pacific R. R. Co., Refunding Mortgage Bonds	1955	4%	Jan.-July	120 00	Sept. 15, 1922	2,757 00
2,000 00	Norfolk & Western Ry. Co., Consolidated Mortgage Bonds	1996	4%	Apr.-Oct.	80 00	Sept. 15, 1922	1,893 00
5,000 00	St. Paul, Minneapolis & Manitoba Consolidated	1933	4½%	Jan.-July	225 00	Nov. 13, 1922	4,932 50
3,000 00	New York Central Railroad Co., Refunding & Improvement Bonds	2013	5%	Apr.-Oct.	150 00	Dec. 30, 1922	2,925 75
2,000 00	Northern Pacific Railway Co., Refunding & Improvement Bonds	2047	5%	Jan.-July	100 00	Dec. 30, 1922	1,995 50
2,000 00	New York Central Railroad Co., Refunding & Improvement Bonds	2013	5%	Apr.-Oct.	100 00	Feb. 9, 1923	1,950 50
3,000 00	Pennsylvania Railroad Co., Gen. Mortgage Bonds	1968	5%	June-Dec.	150 00	Feb. 9, 1923	3,027 00
5,000 00	Illinois Central Railroad Co., Refunding Bonds	1965	5%	May-Nov.	250 00	Mar. 31, 1923	4,950 00
3,000 00	Oregon Short Line Railroad Co., 1st Cons. Bonds	1946	5%	Jan.-July	150 00	Apr. 7, 1923	3,027 00
2,000 00	Oregon Short Line Railroad Co., 1st Cons. Bonds	1946	5%	Jan.-July	100 00	Apr. 9, 1923	2,018 00
5,000 00	St. Paul, Minneapolis & Manitoba Ry. Co. Cons. Bonds	1933	4½%	Jan.-July	225 00	June 6, 1923	4,832 50
5,000 00	Louisville & Nashville Railroad Co., Unified Bonds	1940	4%	Jan.-July	200 00	July 10, 1923	4,470 00
5,000 00	Illinois Central Railroad Co. Bonds	1955	5%	May-Nov.	250 00	Aug. 6, 1923	4,998 75
5,000 00	Union Pacific Railroad Co., 1st Ref. Mortgage Bonds	2008	5%	Mar.-Sept.	250 00	Oct. 8, 1923	4,982 50
5,000 00	Montana Central Ry. Co., 1st Mortgage Bonds	1937	5%	Jan.-July	250 00	Nov. 26, 1923	5,007.50
$265,600 00					$11,575 50		$244,308 58

PENSION FUND ACCOUNT

Receipts, 1923

Cash on Hand January 1, 1923			$9,498.50
Contributions of Subscribing Employees:			
Deductions of 3% from Payrolls of			
City Maintenance Account	$8,287.29		
General Account	4,621.00		
Morris K. Jesup Fund Account	3,852.20		
Special Funds Account	206.96		
Corporate Stock Account	521.64		
	$17,489.09		
Personal Contributions of Subscribing Employees	1,437.11		
Interest on Deferred Contributions	70.34		
		$18,996.54	
Contributions of Board of Trustees:			
To Equal Contributions of Subscribing Employees		18,996.54	
Income from Investment Fund	10,393.43		
Income from Endowment Fund	50.34		
		10,443.77	
Interest on Credit Balances		210.66	
			48,647.51
Bursar's Account			500.00
			$58,646.01

Examined and Approved { ADRIAN ISELIN, A. PERRY OSBORN } *Auditing Committee.*

PENSION FUND ACCOUNT

Disbursements, 1923

Return of Contributions	$2,048.58		
Interest on Contributions Returned	137.39		
		$2,185.97	
Service Pensions "A"	1,039.92		
Service Pensions "B"	250.00		
Service Pensions "C"	382.28		
Service Pensions "E"	988.00		
Pensions in Event of Illness, Dismissal, etc.	473.28		
Death Gratuities Paid Under Section 18	931.45		
		4,064.93	
Expenses		50.00	
			$6,300.90
Purchase of Securities:			
Investment Fund			39,263.75
Loan Account			500.00
Cash on Hand December 31, 1923:			
Deposited with the United States Trust Company of New York		$12,081.36	
Deposited with the Colonial Bank (Bursar's Account)		500.00	
			12,581.36
			$58,646.01

E. and O. E.

NEW YORK, *December 31, 1923.*

GEORGE F. BAKER, JR.,
Treasurer.

PENSION FUND—SPECIAL FUNDS ACCOUNT

Receipts, 1923

Welfare Fund:			
Balance January 1, 1923		$67.83	
Transferred from General Account (Allowances from Trustees)	$333.52		
Transferred from Interest on Credit Balances	3.64		
		337.16	
			$404.99
Interest on Credit Balances:			
Balance January 1, 1923		1.83	
Earnings to December 31, 1923		1.81	
			3.64
			$408.63

Examined and Approved { ADRIAN ISELIN, A. PERRY OSBORN } *Auditing Committee.*

PENSION FUND—SPECIAL FUNDS ACCOUNT

Disbursements, 1923

Welfare Fund	$333.52
Interest on Credit Balances:	
Transferred to Welfare Fund	3.64
Cash on Hand December 31, 1923:	
Deposited with United States Trust Company of New York	71.47
	$408.63

E. and O. E.

NEW YORK, *December 31, 1923.*

GEORGE F. BAKER, JR.,
Treasurer.

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1923

American Museum of Natural History, New York
Report

Biological & Medical Serials

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